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Run
                                                                                     OM nucleic
                                               on:
                                                                                 nucleic search, using sw model
April 17, 2006, 23:57:18 ; Search time 363 Seconds (without alignments) 1475.762 Million cell updates/sec
                                                                                                                                               Copyright
                                                                                                                                             GenCore version 5.1.7 (c) 1993 - 2006 Biocceleration Ltd
```

US-10-663-241-32 133	Perfect score:	
	 133	US-10-663-241-32

Sequence: gctcccccgccgtcgttcaa.....tacagttgtagggagggatt 133

Scoring table: IDENTITY_NUC Gapop 10.0 , Gapext 1.0

Searched: 9281099 seqs, 2013915447 residues

Total number of hits satisfying chosen parameters:

18562198

Minimum Maximum D8 seq length: 0
seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 su summaries

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Database :
Published_Applications_NA_New:*

1: /SIDSS/ptodata/1/pubpna/USO8_NEW_PUB.seq:*

2: /SIDSS/ptodata/1/pubpna/USO6_NEW_PUB.seq:*

3: /SIDSS/ptodata/1/pubpna/USO7_NEW_PUB.seq:*

4: /SIDSS/ptodata/1/pubpna/USO7_NEW_PUB.seq:*

5: /SIDSS/ptodata/1/pubpna/USO9_NEW_PUB.seq:*

6: /SIDSS/ptodata/1/pubpna/USO9_NEW_PUB.seq:*

7: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq:*

8: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq:*

9: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq2:*

10: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq2:*

11: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq2:*

12: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

13: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

14: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

15: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

16: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

17: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*

18: /SIDSS/ptodata/1/pubpna/USO0_NEW_PUB.seq3:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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Score 122 122 122 122	30	Length 176 5834 6465	9 9 9 9	ID US-10-527-048-14 US-10-527-048-15 US-10-527-048-25 US-10-527-048-25	Description Sequence 1 Sequence 2 Sequence 2
91.7 222 91.7 222 91.7 222 91.7 222 91.7 22 91.7 22 91.7 3.8 77.3	. w w 1 1 1 1 1	176 5834 6465 6659 7549 2569 2800	111 9 9 9	US-10-527-048-14 US-10-527-048-15 US-10-527-048-25 US-10-527-048-22 US-10-527-048-24 US-11-190-122-3 US-11-190-122-1	Sequence Sequence Sequence Sequence Sequence Sequence
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	46.	3 10591	11	US-11-004-399-3593	Sequence
	46.	10591	11	US-11-004-399-3738	Sequence
	46.1	10591	11	115-11-004-396-3916	Sequence

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CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 135

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RESULT 2 US-10-527-048-15

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20.3	20.5	30.6	20.3	20.3	20.3	20.5	20.5	20.5	20.5	20.6	20.6	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	21.8	22.1
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US-10-506-454-1690	US-11-136-527-5904	US-09-925-065A-619601	US-10-301-480-727834	US-10-301-480-114425	US-09-925-065A-13188	US-10-301-480-639714	US-10-301-480-639713	US-10-301-480-26305	US-10-301-480-26304	US-11-124-367A-5103	US-09-925-065A-512538	US-09-925-065A-698990	US-10-301-480-842180	US-10-301-480-842179	US-10-301-480-842178	US-10-301-480-228771	US-10-301-480-228770	US-10-301-480-228769	US-10-301-480-613693	US-10-301-480-284	US-09-925-065A-132560	US-09-925-065A-132559	US-09-925-065A-132558	US-11-136-527-3308	US-11-136-527-3808
Sequence 1690, Ap	7000,	77001,	Sequence 727834,	Sequence 114425,	Sequence 13188, A	Sequence 639714,	Sequence 639713,	Sequence 26305, A	Sequence 26304, A	Sequence 5103, Ap	Sequence 512538,	Sequence 698990,	Sequence 842180,	Sequence 842179,	Sequence 842178,	Sequence 228771,	Sequence 228770,	Sequence 228769,	Sequence 613693,	Sequence 284, App	Sequence 132560,	Sequence 132559,	Sequence 132558,	Sequence 3308, Ap	Sequence 3808, Ap

ALIGNMENTS

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; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic DNA
; OTHER INFORMATION: fragment codifying for the promoter region of the plastid 16S
; OTHER INFORMATION: ribosomal RNA (Prrn), with added restriction sites.
US-10-527-048-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 1
US-10-527-048-14
                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 14
LENGTH: 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/10527048 Publication No. US20060026704A1 GENERAL INFORMATION:
Query Match 91.7
Best Local Similarity 99.3
Matches 133; Conservative
                                                                                                                                                                                                                                                                                                                                           APPLICANT: Center for Genetic Engineering and Biotechnology.
TITLE OF INVENTION: VECTOR FOR PRODUCTION OF ANGIOSPERM TRANSPLASTOMIC PLANTS.
FILE REFERENCE: Vector for plastid transformation
CURRENT APPLICATION NUMBER: US/10/527,048
CURRENT FILING DATE: 2005-03-07
NUMBER OF SEQ ID NOS: 26
                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                   TYPE: DNA
                      91.7%;
99.3%;
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Score 122; DB 9; L
Pred. No. 8.1e-31;
0; Mismatches 0;
                                             Length 176;
     Indels
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Sequence 25, Application US/10527048
Sequence 15, Application US/1052704A1
Publication No. US20060026704A1
GENERAL INFORMATION
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Best Local S
Matches 133
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TITLE OF INVENTION: VECTOR FOR PRODUCTION OF ANGIOSPERM TRANSPLASTOMIC PLANTS.
FILE REFERENCE: Vector for plastid transformation
CURRENT APPLICATION NUMBER: US/10/527,048
CURRENT FILING DATE: 2005-03-07
NUMBER OF SEQ ID NOS: 26
SOPTWARE: Patentin Ver. 2.1
SOPTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PatentIn Ver. SEQ ID NO 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 133;
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Best Local Similarity
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TITLE OF INVENTION: VECTOR FOR PRODUCTION OF ANGIOSPERM TRANSPLASTOMIC PLANTS.

FILE REFERENCE: Vector for plastid transformation

CURRENT APPLICATION NUMBER: US/10/527,048

CURRENT FILING DATE: 2005-03-07

NUMBER OF SECIL NOS: 26
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                                                                                                                                                                                                                                                                                                                                  FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Nucleotide sequence of DNA
OTHER INFORMATION: fragment from the vector pVTPA-Bar between the rice atpB and
OTHER INFORMATION: tobacco rbcL borders.
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                                                                  CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
                                                                                                                                              GCTCCCCCGCCGTCGATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                                               CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCCTTGGATACAGT 119
TGTAGGGAGGGATT
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99.3%;
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Pred. No. 1.5e-30;
0; Mismatches (
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Pred. No. 1
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CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119 GCTCCCCCGCCGTCGATCAATGAGAATGGATAAGAGGCTCGTGGGGATTGACGTGAGGGGG

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Publication No. US20060026704A1

GENERAL INFORMATION:

APPLICANT: Center for Genetic Engineering and Biotechnology.

TITLE OF INVENTION: VECTOR FOR PRODUCTION OF ANGIOSPERM TRANSPLASTOMIC FILE REFERENCE: Vector for plastid transformation

CURRENT APPLICATION NUMBER: US/10/527,048

CURRENT APPLICATION NUMBER: US/10/527,048

CURRENT FILING DATE: 2005-03-07

NUMBER OF SEQ ID NOS: 26

SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                SEQ ID NO 24
LENGTH: 7549
                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 24, Application US/10527048 Publication No. US20060026704A1
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                                            Matches
                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                        APPLICANT: Center for Genetic Engineering and Biotechnology.
TITLE OF INVENTION: VECTOR FOR PRODUCTION OF ANGIOSPERM TRANSPLASTOMIC PLANTS
FILE REFERENCE: Vector for plastid transformation
CURRENT APPLICATION NUMBER: US/10/527,048
CURRENT FILING DATE: 2005-03-07
NUMBER OF SEQ ID NOS: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                        OTHER INFORMATION: Description of Artificial Sequence: Nucleotide sequence of DNA OTHER INFORMATION: fragment from the vector pVTPA-HB-aadA between the rice atpB as OTHER INFORMATION: tobacco rbcL borders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: fragment from the vector pVTPA-aadA OTHER INFORMATION: tobacco rbcL borders.
                                                                                                                                                                                                       ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 6659
TYPE: DNA
                                                                                                                                                                                                                                               TYPE: DNA
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                                                            Score 122; DB 9;
Pred. No. 1.6e-30;
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Pred. No. 1.5e-30;
0; Mismatches 0
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                                                                               Length 7549;
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US-11-190-122-1

; Sequence 1, Application US/11190122

; Publication No. US20060031964A1

; GENERAL INFORMATION:
                                                                                                                   RESULT 7
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US-11-190-122-3
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US-11-190-122-3
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Best Local Similarity
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LENGTH: 2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/11190122 Publication No. US20060031964A1 GENERAL INFORMATION:
APPLICANT: Daniell, Henry TITLE OF INVENTION: Plastid FILE REFERENCE: CHL-T107C3Z2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/344,704
PRIOR TILING DATE: 2001-12-26
PRIOR PPLICATION NUMBER: 10/500,351
PRIOR FILING DATE: 2004-06-25
PRIOR PPLICATION NUMBER: pct/us2003/021157
PRIOR PPLICATION NUMBER: pct/us2003/021157
PRIOR PILING DATE: 2003-07-03
PRIOR PILING DATE: 2003-07-03
PRIOR PILING DATE: 2004-07-23
PRIOR PILING DATE: 2004-07-23
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CURRENT APPLICATION NUMBER: US/11/190,122
CURRENT FILING DATE: 2005-07-25
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PRIOR APPLICATION NUMBER: 60/393,428
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 2004-12-30
APPLICATION NUMBER: 60/400,816
FILING DATE: 2002-08-02
APPLICATION NUMBER: 60/393,651
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90.3%;
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              Genetic Engineering Via Somatic Embryogenesis
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Pred. No. 3.1e-24;
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PRIOR APPLICATION NUMBER: 60/344,704
PRIOR FILING DATE: 2001-12-26
PRIOR PPLICATION NUMBER: 10/500,351
PRIOR APPLICATION NUMBER: pct/us2003/021157
PRIOR APPLICATION NUMBER: pct/us2003/021157
PRIOR APPLICATION NUMBER: 60/590,848
PRIOR PILING DATE: 2004-07-23
PRIOR APPLICATION NUMBER: 60/590,751
PRIOR APPLICATION NUMBER: 60/590,751
PRIOR APPLICATION NUMBER: 10/519,821
PRIOR APPLICATION NUMBER: 10/519,821
PRIOR APPLICATION NUMBER: 60/400,816
PRIOR APPLICATION NUMBER: 60/400,816
PRIOR APPLICATION NUMBER: 60/400,816
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US-11-190-122-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
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Publication No. US20060031964A1
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SOFTWARE: PatentIn versi
SEQ ID NO 1
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CURRENT APPLICATION NUMBER: US/11/190,122
CURRENT FILING DATE: 2005-07-25
                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Daniell, Henry
TITLE OF INVENTION: Plastid Genetic Engineering Via Somatic
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PRIOR PILING DATE: 2001-12-26
PRIOR APPLICATION NUMBER: 10/500,351
PRIOR FILING DATE: 2004-06-25
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CURRENT FILING DATE: 2005-07-25
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APPLICATION NUMBER: 60/393,651
FILING DATE: 2002-07-03
APPLICATION NUMBER: 60/393,428
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FILING DATE: 2004-12-30
APPLICATION NUMBER: 60/400,816
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Similarity 90.3%;
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Pred. No. 3.2e-24;
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PRIOR APPLICATION NUMBER: 60/393,651
PRIOR FILING DATE: 2002-07-03
PRIOR FILING DATE: 2002-07-03
PRIOR FILING DATE: 2002-07-03
PRIOR APPLICATION NUMBER: 60/393,428
PRIOR FILING DATE: 2002-12-26
PRIOR FILING DATE: 2002-12-26
NUMBER OF SEQ ID NOS: 21
SEQ ID NO 2
SEQ ID NO 2
LENGTH: 33119
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US-11-004-399-377
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                                                                                                                                                                                       Query Match
Best Local S
Matches 93
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SEQ ID NO 377
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Poon, Leo Lit Man
APPLICANT: Peiris, Joseph Sziyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-CoV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against SA
FILE REFERENCE: 2587/73166/RDK
                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2004-12-03
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR FILING DATE: 2003-12-03
NUMBER OF SEQ ID NOS: 4043
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APPLICANT: Li, Hong Ye
APPLICANT: Ramalingan,
                                                                                                                                                                                                                                                                  OTHER INFORMATION: pCV8
11-004-399-377
                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                       FEATURE:
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                                                                                                                                                                                     Match 46.8%;
Local Similarity 73.2%;
les 93; Conservative
                                       3344 GGTTGGCTATACTGCTGGTGGCGAACTCCAGGCTAATAATCTGAAGCGCTTGGAAGTTGT
                                                                                                             3284 CCCCGCCACGATCGAACGGGAATGGATAAGAGGCTTGTGGGATTGACGTGATAGGGTAG
 123
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                                                            GGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGTTGT
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Poon, Leo Lit Man
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90.3%;
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                                                                                                                                                                                     Score 62.2; DB 11;
Pred. No. 1.2e-10;
0; Mismatches 33;
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Pred. No. 3.2e-24;
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US-11-004-399-483
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SEQ ID NO 378
LENGTH: 8082
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Publication No. US20
GENERAL INFORMATION:
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SOFTWARE: PatentIn version 3.1 SEQ ID NO 483
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APPLICANT: Ramalingam, Sathiskumar
APPLICANT: Poon, Leo Lit Man
APPLICANT: Peiris, Joseph Sriyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-Cov Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against St
FILE REFERENCE: 2587/73166/RDK
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2004-12-03
                                              APPLICANT: Poon, Leo Lit Man
APPLICANT: Peiris, Joseph Sriyal Malik
APPLICANT: Peiris, Joseph Sriyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-COV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against S?
FILE REFERENCE: 2587/73166/RDK
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2004-12-03
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR PILING DATE: 2003-12-03
NUMBER OF SEQ ID NOS: 4043
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APPLICANT: Li, Hong Ye
APPLICANT: Ramalingam, Sathiskumar
APPLICANT: Poon, Leo Lit Man
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PRIOR FILING DATE: 2003-12-03
NUMBER OF SEQ ID NOS: 4043
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LOCATION: (1)..(80
OTHER INFORMATION:
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OTHER INFORMATION: pCV8
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o. US20060053516A1
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73.2%;
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Pred. No. 1.2e-10;
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US-11-004-399-605
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Best Local
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APPLICANT: Li, Hong Ye
APPLICANT: Li, Hong Ye
APPLICANT: Ramalingam, Sathiskumar
APPLICANT: Poon, Leo Lit Man
APPLICANT: Point, Leo Lit Man
APPLICANT: Peiris, Joseph Sriyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-COV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against SA
FILE REFERENCE: 2587/73166/RDK
FULT REFERENCE: 2587/73166/RDK
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2003-12-03
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR FILING DATE: 2003-12-03
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LOCATION: (3)..(80
OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 8082
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: CDS
LOCATION: (2)..(8080)
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                                                                                                                                                              4 CCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGGCAG
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1 Similarity 73.2%;
93; Conservation
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                                                                                                    GGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGTTGT
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AGGGAGG 3452
                                                                 GGTTGGCTATACTGCTGGTGGCGAACTCCAGGCTAATAATCTGAAGCGCTTGGAAGTTGT 3445
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                                                                                                                                                                                                                                  46.8%;
                                                                                                                                                                                                             Score 62.2; DB 11;
Pred. No. 1.2e-10;
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Pred. No. 1.2e-10;
0; Mismatches 33;
                                                                                                                                                                                                                                                   Length 8082;
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US-11-004-399-113
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US-11-004-399-1
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                      SOFTWARE: PatentIn version 3.1
SEQ ID NO 113
LENGTH: 9348
TYPE: DNA
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APPLICANT: Poon, Leo Lit Man
APPLICANT: Peiris, Joseph Sriyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-CoV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against S
FILE REFERENCE: 2587/73166/RDR
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2004-12-03
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                                                                                                         PRIOR APPLICATION NUMBER: US 60/527,637 PRIOR FILING DATE: 2003-12-03 NUMBER OF SEQ ID NOS: 4043
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TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-COV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against 5
FILE REFERENCE: 2587/73166/RDK
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT FILING DATE: 2004-12-03
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR FILING DATE: 2003-11-03
NUMBER OF SEQ ID NOS: 4043
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APPLICANT: Li, Hong Ye
ORGANISM: Artificial Sequence
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NAME/KEY: CDS
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OTHER INFORMATION:
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Local Similarity 73.2%;
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Poon, Leo Lit Man
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o. US20060053516A1
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Pred. No. 1.2e-10;
"" matches 33;
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FEATURE:
OTHER INFORMATION: pCV1
FEATURE:
FEATURE:
NAME/KEY: CDS
LOCATION: (3)..(9347)
OTHER INFORMATION:
US-11-004-399-274
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APPLICANT: Li, Hong Ye
APPLICANT: Ramalingam, Sathiskumar
APPLICANT: Ramalingam, Sathiskumar
APPLICANT: Poon, Leo Lit Man
APPLICANT: Peiris, Joseph Sriyal Malik
TITLE OF INVENTION: Genetically Modified Plants Comprising SARS-CoV Viral Nucleotide
TITLE OF INVENTION: Sequences and Methods of Use Thereof For Immunization Against SA
FILE REFERENCE: 2587/73166/RDK
CURRENT APPLICATION NUMBER: US/11/004,399
CURRENT APPLICATION NUMBER: US/04-12-03
PRIOR APPLICATION NUMBER: US 60/527,637
PRIOR FILING DATE: 2003-12-03
PRIOR FILING DATE: 2003-12-03
NUMBER: OF SEQ ID NOS: 4043
SOCTWARE: PatentIn version 3.1
SEQ ID NO 274
LENGTH: 9348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 274, Application US/11004399 Publication No. US20060053516A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 46.8
Best Local Similarity 73.2
Matches 93; Conservative
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Best Local Similarity 73.2
Matches 93; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
OTHER INFORMATION: pCV1
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4712 AGGGAGG 4718
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                                                                                                                                                                                                                                          46.8%; Score 62.2; DB 11; Length 9348; 73.2%; Pred. No. 1.2e-10; ative 0; Mismatches 33; Indels 1;
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Search completed: April 18, 2006, 00:03:30 Job time : 365 secs

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Result
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Maximum Match 100%
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Maximum DB seq length: 2000000000
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Gapop 10.0 , Gapext 1.0
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133
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/cgn2_6/ptodata/1/pubpna/US08_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09A_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US09B_PUBCOMB.seq:*
/cgn2_6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-10-95-514-3
US-10-737-251-3
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                            Sequence 32, Appli Sequence 3, Appli Sequence 26, Appli Sequence 25, Appli Sequence 26, Appli Sequence 30, Appli Sequence 31, Appli Sequence 31, Appli Sequence 32, Appli Sequence 33, Appli Sequence 42, Appli Sequence 19, Appli Sequence 19, Appli Sequence 41, Appli Sequence 5, Appli Sequence 63, Appli Sequence 63, Appli Sequence 64, Appli Sequence 65, Appli Sequence 66, Appli Sequence 66, Appli Sequence 67, Appli Sequence 67, Appli Sequence 68, Ap
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PRIOR APPLICATION NUMBER: US/09/445,283C PRIOR PILING DATE: 1999-12-03 PRIOR PPLICATION NUMBER: PCT/US98/11437 PRIOR PILING DATE: 1998-06-03 PRIOR APPLICATION NUMBER: 60/058,670 PRIOR FILING DATE: 1997-09-12 PRIOR APPLICATION NUMBER: 60/048,376 PRIOR PILING DATE: 1997-06-03 NUMBER OF SEQ ID NOS: 64 SOPTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 32 LENGTH: 133 RESULT 1 US-10-663-241-32 Sequence 32, Application US/10663241 Publication No. US20040040058A1 GENERAL INFORMATION: APPLICANT: Maliga, Pal APPLICANT: Silhavy, Daniel APPLICANTION: Plastid Promoters for Transgene TITLE OF INVENTION: Expression in the Plastids of Higher Plants FILE REFERENCE: Rut 97-0097 CURRENT APPLICATION NUMBER: US/10/663,241 CURRENT FILING DATE: 2003-09-16

ALIGNMENTS

B 8	g 49	db dy	Query Match Best Local : Matches 13) OTHER INFORM US-10-663-241-32
121 GTAGGGAGGGATT 133 121 GTAGGGAGGGATT 133	61 CAGGGATGGCTATATTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGTT 120 	1 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 60	Query Match 100.0%; Score 133; DB 7; Length 133; Best Local Similarity 100.0%; Pred. No. 1.3e-39; Matches 133; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	OTHER INFORMATION: Prrn promoter 10-663-241-32

TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:

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Sequence 2, Application US/10460716

Publication No. US20030200568A1

GENERAL INFORMATION:
APPLICANT: Maliga, Pal
APPLICANT: Skarjinskaia, Marina
APPLICANT: Svab, Zora
APPLICANT: Rutgers, The State University of New Jersey
TITLE OF INVENTION: Plastid Transformation in Lesquerella
TITLE OF INVENTION: Plastid Transformation in Lesquerella
FILE REFERENCE: Rut 00-0109CIP
CURRENT APPLICATION NUMBER: US/10/460,716
CURRENT FILING DATE: 2003-06-12
PRIOR APPLICATION NUMBER: US/09/524,087A
PRIOR APPLICATION NUMBER: US/09/524,087A
PRIOR APPLICATION NUMBER: PCT/US97/03444
                                                                                                                                   APPLICANT: Rutgers, The State University of New Jersey
TITLE OF INVENTION: Plastid Transformation in Lesquerella
TITLE OF INVENTION: Pendleri, an Oilseed Brassicacea
FILE REFERENCE: Rut 00-0109CIP
CURRENT APPLICATION NUMBER: U5/10/460,716
CURRENT FILING DATE: 2003-06-12
PRIOR APPLICATION NUMBER: U5/99/524,087A
PRIOR FILING DATE: 2000-03-13
PRIOR APPLICATION NUMBER: U5/99/524,087A
PRIOR APPLICATION NUMBER: DCT/US97/03444
PRIOR FILING DATE: 1997-03-06
PRIOR APPLICATION NUMBER: 60/102,716
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/10460716
Publication No. US20030200568A1
GENERAL INFORMATION:
APPLICANT: Maliga, Pal
APPLICANT: Skarjinskaia, Marina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 2
                                                                      SOFTWARE: FastSEQ for Windows Version SEQ ID NO 3
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Best Local Similarity
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 1997-03-06
PRIOR APPLICATION NUMBER: 60/102,716
PRIOR FILING DATE:
                                                                                                                       NUMBER OF SEQ ID NOS:
TYPE: DNA ORGANISM: Artificial
                                                     LENGTH: 1417
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Svab, Zora
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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Pred. No. 2.8e-35;
Pred. No. 2.8e-35;
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APPLICANT: Corneille, Sylvie
APPLICANT: Lutz, Kerry
APPLICANT: Lutz, Kerry
TITLE OF INVENTION: Integrases for the insertion of
TITLE OF INVENTION: heterologous nucleic acids into the state of invention number: US/10/473,207
CURRENT APPLICATION NUMBER: US/10/473,207
CURRENT FILING DATE: 2003-09-19
PRIOR APPLICATION NUMBER: PCT/US02/09537
PRIOR APPLICATION NUMBER: FCT/US02/09537
PRIOR FILING DATE: 2002-03-29
PRIOR FILING DATE: 2001-03-29
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; OTHER INFORMATION: plasmid fragment
US-10-473-207-26
                                                                                            RESULT 5
US-10-473-207-4/c
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; LENGTH: 2145
; TYPE: DNA
                                    Sequence 4, Application US/10473207
Publication No. US20040163145A1
GENERAL INFORMATION:
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Best Local :
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Publication No. US20040163145A1
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Best Local Similarity 99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 132;
APPLICANT: Maliga, Pal
APPLICANT: Corneille, Sylvie
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
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99.2%;
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Pred. No. 3e-35;
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Pred. No. 7.7e-35;
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                                                                                                                                                        Query Match
Best Local S
Matches 131
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APPLICANT: Maliga, Pal
APPLICANT: Corneille, Sylvie
APPLICANT: Lutz, Kerry
TITLE OF INVENTION: Integrases for the insertion of
TITLE OF INVENTION: Integrases for the insertion of
TITLE OF INVENTION: heterologous nucleic acids into the plastid genome
FILE REFERENCE: 1594-RUT.01-091US
CURRENT APPLICATION NUMBER: US/10/473,207
CURRENT FILING DATE: 2003-09-19
PRIOR APPLICATION NUMBER: PCT/US02/09537
PRIOR APPLICATION NUMBER: 60/279615
PRIOR APPLICATION NUMBER: 60/279615
                                                                                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 25
LENGTH: 2391
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 25, Application US/10473207
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CURRENT FILING DATE: 2003-09-19
PRIOR APPLICATION NUMBER: PCT/US02/09537
PRIOR FILING DATE: 2002-03-29
PRIOR APPLICATION NUMBER: 60/279615
PRIOR FILING DATE: 2001-03-29
PRIOR FILING DATE: 2001-03-29
NUMBER OF SEQ ID NOS: 29
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                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                            OTHER INFORMATION: plasmid fragment
                                                                                                                                                                                                                                                                                        FEATURE:
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61 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
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                                                                                                              1 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                                                                                                                                            Similarity
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                                                                                                                                                          Conservative
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                                                                                                                                                                            98.5%;
                                                                                                                                                        0; Mismatches
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                                                                                                                                                                            Score 119.4; DB 7;
Pred. No. 3.1e-34;
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Pred. No. 2.9e-34;
0; Mismatches 1;
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                                                                                                                                                                                              Length 2391;
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; TYPE: DNA; ORGANISM: N. tabacum US-10-095-514-3
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TYPE: DNA
; ORGANISM: Nicotiana tabacum
US-10-881-813-6
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                                                                                                                                         SEQ ID NO 3
LENGTH: 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/10095514 Publication No. US20040093638A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 12
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 6
    Matches
                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
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                                                                                                                                                                                                                      CURRENT FILING DATE: 2002-03-13
PRIOR APPLICATION NUMBER: JP 2001-70,691
PRIOR FILING DATE: 2001-03-13
PRIOR APPLICATION NUMBER: JP 2001-300,038
PRIOR FILING DATE: 2001-09-28
NIMBER: DATE: 2001-09-28
                                                                                                                                                                                                                                                                                                         FILE REFERENCE: 026350-072
CURRENT APPLICATION NUMBER: US/10/095,514
CURRENT FILING DATE: 2002-03-13
                                                                                                                                                                                 NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Sasaki, Yukiko
APPLICANT: Yokota, Akiho
APPLICANT: Madoka, Yuka
TITLE OF INVENTION: Method for Promoting Fatty Acid Synthesis in a Plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/10/881,813
CURRENT FILING DATE: 2004-06-30
PRIOR APPLICATION NUMBER: US 60/484,166
PRIOR FILING DATE: 2003-07-01
PRIOR APPLICATION NUMBER: US 60/492,179
PRIOR FILING DATE: 2003-08-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Cox, Kevin
APPLICANT: Peele, Charles G.
TITLE OF INVENTION: Chloroplast Transformation of Duckweed
FILE REFERENCE: 40989/279944
                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION:
  121;
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    Conservative
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                                                                                                                                                                                      for Windows Version 4.0
                   77.3%; Score 102.8; DB 7; 90.3%; Pred. No. 3.3e-28;
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Pred. No. 7.7e-30;
0; Mismatches 0
Mismatches
  12;
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  Indels
                                        Length 220;
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1 GCTCCCCCGCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGGG

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; TYPE: DNA
; ORGANISM: Nicotiana tabacum
US-10-737-251-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
US-10-737-251-38
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Publication No. US20040221338A1
GENERAL INFORMATION:
APPLICANT: Pal Maliga
APPLICANT: Pal Maliga
APPLICANT: On Y. Suzuki
TITLE OF INVENTION: Plastid rRNA Operon PromoterElements for
TITLE OF INVENTION: Construction of Chimeric Promoters for Transgene Expression
FILE REFERENCE: 1594 RUT 03-083US
CURRENT APPLICATION NUMBER: US/10/737,251
CURRENT APPLICATION NUMBER: US/10/737,251
CURRENT APPLICATION NUMBER: 60/433,302
PRIOR APPLICATION NUMBER: 60/433,302
PRIOR APPLICATION DATE: 2003-12-13
NUMBER OF SEQ ID NOS: 51
PRIOR FILING DATE: 2005-12-13
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 63, Application US/10377134 Publication No. US20040096938A1 GENERAL INFORMATION:
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Best Local Similarity
                                                           APPLICANT: CHEN, Lixin
APPLICANT: GHOSH, Inca
APPLICANT: GHOSH, Inca
TITLE OF INVENTION: METHOD FOR GENERATING SPLIT, NON-TRANSFERABLE GENES
TITLE OF INVENTION: THAT ARE ABLE TO EXPRESS AN ACTIVE PROTEIN PRODUCT
FILE REFERENCE: NEB-219
FILE REFERENCE: NEB-219
CUCREENT APPLICATION NUMBER: US/10/377,134
CURRENT FILING DATE: 2003-02-28
PRIOR APPLICATION NUMBER: 09/936,588
PRIOR FILING DATE: 2002-03-29
PRIOR FILING DATE: 2002-03-29
                                                                                                                                                                                                                                                                                                                     APPLICANT: XU, Ming-Qun
APPLICANT: EVANS, Thomas C.
APPLICANT: PRADHAN, Sriharsa
APPLICANT: COMB, Donald G.
                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                    APPLICANT:
PRIOR APPLICATION NUMBER: PCT/US00/14122
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 60/135,677
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                                                                                                                                                                                                                                                                          SUN, Luo
                                                                                                                                                                                                                                                                                                    PAULUS, Henry
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Pred. No. 3.4e-28;
0; Mismatches 12;
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US-10-680-824A-1/c
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publication No. US20040133937A1
GENERAL INFORMATION:
APPLICANT: Boudreau, Eric
APPLICANT: Gu, Weining
                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 29
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 7652
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 63
                                                                                                                                                                                                        Matches 121;
                                                                                                                                                                                                                            Query Match 77.3%;
Best Local Similarity 90.3%;
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Best Local Similarity 90.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 70149USNP
CURRENT APPLICATION NUMBER: US/10/680,824A
CURRENT FILING DATE: 2003-10-07
PRIOR APPLICATION NUMBER: 60/418596
PRIOR FILING DATE: 2002-07-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Gu, Weining
APPLICANT: De Framond, Anic
APPLICANT: Heifetz, Peter
TITLE OF INVENTION: Plastid Transformation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 1999-05-24
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OTHER INFORMATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Unknown FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 6477
TYPE: DNA
                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: pEBPPOt plastid transformation vector (Example 1 VII).
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                                                                                                                                  6644
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120 TGTAGGGAGGGATT 133
                                                                                             61
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                                                                                     CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                          CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATATGAAGCGCATGGATACAAG 6525
                                                                                                                                                                     GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 60
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Pred. No. 6.9e-28;
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Pred. No. 6.7e-28;
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                                                                        ; OTHER INFORMATION: plasmid pEB10 US-10-680-824A-19
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                                                                                                                                                                                                                                                                                                                                                                      Sequence 19, Application US/10680824A
Publication No. US20040133937A1
GEMERAL INFORMATION:
APPLICANT: Boudreau, Eric
APPLICANT: Gu, Weining
 Query Match
Best Local Similarity
Matches 121; Conserv
                                                                                                                                                         SOFTWARE: PatentIn version 3.1
SEQ ID NO 19
LENGTH: 10011
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SEQ ID NO 2
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                                                                                                                                                                                                                               FILE REFERENCE: 70149USNP
CURRENT APPLICATION UMMBER: US/10/680,824A
CURRENT FILING DATE: 2003-10-07
PRIOR APPLICATION NUMBER: 60/418596
PRIOR FILING DATE: 2002-07-10
                                                                                                                                                                                                                                                                                                                      APPLICANT: Gu, Weining
APPLICANT: De Framond, Anic
APPLICANT: Heifetz, Peter
TITLE OF INVENTION: Plastid Transformation
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TITLE OF INVENTION: Plastid Transformation
FILE REFERENCE: 70.149USNP
CURRENT APPLICATION NUMBER: US/10/680,824A
CURRENT FILING DATE: 2003-10-07
PRIOR APPLICATION NUMBER: 60/418596
PRIOR FILING DATE: 2002-07-10
NUMBER OF SEQ ID NOS: 29
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                                                                                                                      ORGANISM: artificial sequence
                                                                                                                                              TYPE: DNA
                                                                                                             FEATURE:
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mes 121; Conserv
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De Framond, Anic
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                    77.3%;
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Score 102.8; DB 7
Pred. No. 7.3e-28;
0; Mismatches 12
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Pred. No. 7.1
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GENERAL INFORMATION:

APPLICANT: Boudreau, Eric
APPLICANT: Gu, Weining
APPLICANT: Gu, Weining
APPLICANT: De Framond, Anic
APPLICANT: Heifetz, Peter
FITTLE OF INVENTION: Plastid Transformation
FILE REFERENCE: 70149USUP
CURRENT APPLICATION NUMBER: US/10/680,824A
CURRENT FILING DATE: 2003-10-07
PRIOR APPLICATION NUMBER: 60/418596
PRIOR FILING DATE: 2002-07-10
NUMBER OF SEQ ID NOS: 29
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Best Local Similarity 90.3%;
Matches 121; Conservative
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CURRENT FILING DATE: 2004-10-01
PRIOR APPLICATION NUMBER: 60/509,002
PRIOR FILING DATE: 2003-10-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Syngenta Participations AG
APPLICANT: Boudreau, Eric
TITLE OF INVENTION: Promoter Functional in
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SOFTWARE: PatentIn version 3.2
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OTHER INFORMATION: plasmid
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LOCATION: (1)..(10011)
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Pred. No. 7.3e-28;
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/cgn2_6/ptodata/1/ina/RE_COMB.seq:*
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GTAGGGAGGGATT GTAGGGAGGGATT	CAGGGATG	CICCCCC	larit Conse	5-283C-32 (ce 32, Application U No. 6624296 L INFORMATION: CANT: Maliga, Pal CANT: Silraman, Pi CANT: Silraman, Pi CANT: Silraman, Pi CANT: SILRAMAN, Dani CANT: SILRAMAN, Pal CANT: SILRAMAN, Plast OF INVENTION: Expr REFERENCE: Rut 97-00 NIT APPLICATION NUMBER: FILING DATE: 1998-0 APPLICATION NUMBER: FILING DATE: 1997-0 R OF SEQ ID NOS: 64 ARB: FASTSEQ for Win NO 32 TH: 133 IDNA INSM: Artificial Seq URB: R INFORMATION: Prrn 5-283C-32		550.01.1.00 500.01.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.1.00 500.01.00 500.01.00 500.01.00 500.00
	aggatggctatatictgggagcgaactccgggcgaatacgaagcgcttggatacagt 	CTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 	100 Y 100 rvative	15-283C-32 LOC 32, Application US/094 NO. 6624296 LINFORMATION: CCANT: Maliga, Pal CCANT: Silhavy, Daniel CCANT: Srivaman, Priya OF INVENTION: Expressio REFERENCE: Rut 97-0097 NOT APPLICATION NUMBER: US NT APPLICATION NUMBER: PCT/ APPLICATION NUMBER: PCT/ APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICATION NUMBER: 60/0 FILING DATE: 1997-06-03 ROF SEQ ID NOS: 64 APPLICAT		107 1164 1164 1129 1129 1140 1140 1140 258 258 258 244 244 244 244 244 1193 1193 1193 1193 1193 1193 1193 11
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RESULT 3
US-09-193-853-4
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ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
TELEFAX: (215) 563-4044
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 165 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4, Application Patent No. 5877402 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 133; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 1910-2-COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: US/08/189,256A
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APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: Transforming Plastids of Multicellular Plants
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
TITLE OF SECUENCES: 47
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ANTI-SENSE: 1
                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
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FILING DATE: 25-AUG-1993
PRIOR APPLICATION DATA:
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PRIOR APPLICATION NUMBER: US 08/111,398
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CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 165 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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                                                                 121
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Svab, Zora
Staub, Jeffrey
Zoubenko, Oleg V.
Allison, Lori A.
Carrer, Helaine
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1601 Market Street Suite 720
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Pred. No. 5.2e-35;
0; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09193853
                                                                                                                                                                                                  Matches
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Best Local Similarity
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APPLICANT: Maliga
APPLICANT: Svab,
                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
TELEFAX: (215) 563-4044
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Kanevski, I
TITLE OF INVENTION: DN
TITLE OF INVENTION: TX
TITLE OF INVENTION: EX
NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/193,853
                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 165 base pairs
TYPE: nucleic acid
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US of
FILING DATE: 01-MAY-1990
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APPLICATION NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
ZIP: 19103-2307
                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Dann, Dorfman, Herrell and STREET: 1601 Market Street Suite 720
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                   120 TGTAGGGAGGGATT 133
121
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                                                                                    CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
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 TGTAGGGAGGGATT
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Allison, Lori A.
Carrer, Helaine
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ilarity 99.3%;
Conservative
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Svab, Zora
                                                                                                                                                                                                                                                                                                                                      linear
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Transforming Plastids of Multicellular Plants and
Expressing Recombinant Proteins Therein
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134
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RESULT 4 US-08-189-256A-2 ; Sequence 2, Ap

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RESULT 5
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GENERAL INFORM
APPLICANT:
APPLICANT:
APPLICANT:
Sequence 2, Application US/09193853 Patent No. 6388168
                                                                                                                                                                                                                                                                                                                              Best Local Similarity Matches 133; Conserv
                                                                                                                                                                                                                                                                                                                                                                Query Match
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APPLICATION NUMBER: US 08/111
PILING DATE: 25-AUG-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/518
APPLICATION UNMBER: US 07/518
FILING DATE: 01-MAY-1990
ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: (215) 563-4100
TELEFAX: (215) 563-4044
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Zoubenko, Oleg v.
APPLICANT: Allison, Lori A.
APPLICANT: Allison, Lori A.
APPLICANT: Carrer, Helaine
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: DNA Constructs and Methods for Stably
TITLE OF INVENTION: Transforming Plastids of Multicellular Plants
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                            121
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                                                                                                                                                                                                                                                                         1 GCTCCCCCGCCGTCGTTCAATGAGAATGGGTAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                                                          TGTAGGGAGGGATT 134
                                                                                                                                             TGTAGGGAGGGATT 133
                                                                                                                                                                               CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
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1601 Market Street Suite 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168 base pairs
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Staub, Jeffrey
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Svab, Zora
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                                                                                                                                                                                                                                                                                                                                           91.7%;
99.3%;
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                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                             Score 122; DB 2;
Pred. No. 5.2e-35;
                                                                                                                                                                                                                                                                                                                            Mismatches
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                                                                                                                                                                                                                                                                                                                                                             Length 168;
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US-09-193-853-2
                                                                                                                                                                                        Best Loc
Matches
                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                             PILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
EILING DATE: 01-MAY-1990
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                    MOLECULE TYPE: DI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Allison, Lori A.
APPLICANT: Carrer, Helaine
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: DNA Constructs and Methods for Stably
TITLE OF INVENTION: Transforming Plastids of Multicellular Plants and
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 1601...
                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                     TOPOLOGY: not relevant
                                                                                                                                                                                                                                                                                                                                                   TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Dann, Dorfman, Herrell and Skillman STREET: 1601 Market Street Suite 720
121
                120 TGTAGGGAGGGATT 133
                                                                                                                                                                                         133;
                                                            61 CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 120
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                                                                                                                                                                                                        Similarity
TGTAGGGAGGGATT 134
                                                                                   CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                                                                           GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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Allison, Lori A.
Carrer, Helaine
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                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                      single
                                                                                                                                                                                                                                                                                                     DNA (genomic)
                                                                                                                                                                                                       91.7%;
99.3%;
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                                                                                                                                                                                      Score 122; DB 3; Length 168; Pred. No. 5.2e-35; 0; Mismatches 0; Indels
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                                                                                                                                                                                        Gaps
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RESULT 6
US-08-189-256A-10/c
; Sequence 10, Application US/08189256A
; Patent No. 5877402

GENERAL INFORMATION:

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APPLICANT: Allison, Loring APPLICANT: Carrer, Helaine
APPLICANT: Kanevski, Ivan
ITILE OF INVENTION: DNA Constructs and Methods for Stably
ITILE OF INVENTION: Transforming Plastids of Multicellular Plants and
ITILE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSE: Dann, Dorfman, Herrell and Skillman
STREET: 1601 Market Street Suite 720
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; ANTI-SENSE: NO
US-08-189-256A-10
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                                                                       US-09-193-853-10/c
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                                                                                            RESULT 7
               Sequence 10, Application US/09193853
Patent No. 6388168
GENERAL INFORMATION:
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Best Local Similarity
Matches 133; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 01-MAY-1990
ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
TELEPAX: (215) 563-4044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (215) 563-404
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/08/189,256A
APPLICATION NUMBER: US/08/189,256A
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APPLICANT:
APPLICANT:
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FILING DATE: 25-AUG-1993
PRIOR APPLICATION DATA;
APPLICATION NUMBER: US 0
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PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US 08/111,398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
APPLICANT: Maliga,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
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ilarity 99.3%;
Conservative
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Allison, Lori A.
Carrer, Helaine
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Pred. No. le-34;
0; Mismatches
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US-09-142-114B-6/c
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                    RESULT 8
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INFORMATION FOR SEQ ID NO: 10
SEQUENCE CHARACTERISTICS:
LENGTH: 1134 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                             Matches 133;
                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                   Best
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MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/193,853
FILING DATE:
CLASSIFICATION OBTA:
PRIOR APPLICATION NUMBER: 08/189,256
APPLICATION NUMBER: 08/189,256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 07/518
PILING DATE: 01-MAY-1990
ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Stabb, Zora
APPLICANT: Stabb, Jeffrey
APPLICANT: Zoubenko, Oleg V.
APPLICANT: Zoubenko, Oleg V.
APPLICANT: Allison, Lori A.
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: DNA Constructs and Methods for Stably
TITLE OF INVENTION: Expressing Plastids of Multicellular Plants
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
TARRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE: DI
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Philadelphia
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Dann, Dorfman, H
STREET: 1601 Market Street
                                                                                                                                                                                                                                      1058
                                                                              938
                                                                                                                   120
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                                                                                                           TGTAGGGAGGGATT 133
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ket Street Suite 720
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99.3%;
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Pred. No. 1e-34;
                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Version
                                                                                                                                                                                                                                                                                                                                                   DB 3; Length 1134;
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Sequence 6, Application US/09142114B Patent No. 6376744
GENERAL INFORMATION:
APPLICANT: Rucgers University
APPLICANT: Maliga, Pal

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Patent No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
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SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 133; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/142,114B
CURRENT FILING DATE: 1999-02-05
PRIOR APPLICATION NUMBER: PCT/US97/03444
PRIOR FILING DATE: 1997-03-06
NUMBER OF SEQ ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Sikdar, Samir R.
APPLICANT: Reddy, Siva Vanga
TITLE OF INVENTION: Plastid Transformation in Arabidopsis
TITLE OF INVENTION: Thaliana
                                                                                                                                         COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
CURRENT APPLICATION NUMBER: US/08/189,256A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Zoubenko, Oleg V.
APPLICANT: Alison, Lori A.
APPLICANT: Carrer, Helaine
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: DNA Constructs and Methods for Stably
TITLE OF INVENTION: Transforming Plastids of Multicellular Plants and
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/111,398
FILING DATE: 25-AUG-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                       STATE: PA
COUNTRY: USA
ZIP: 19103-2307
                                                                                                                       APPLICATION NUMBER: US/0:
FILING DATE: 31-JAN-1994
CLASSIFICATION: 435
APPLICATION NUMBER: US 07/518,763 FILING DATE: 01-MAY-1990
                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1070
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                                                                                                                                                                                                                                                                                                                                                                          Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTAGGGAGGGATT 133
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTCCCCCCCCCTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 1071
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/08189256A
                                                                                                                                                                                                                                                                                                                                                                                      E: Dann, Dorfman, Herrell and Skillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Svab, Zora
Staub, Jeffrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maliga, Pal
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99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 122; DB 3
Pred. No. 1e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 3; Length 1143;
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; MOLECULE TYPE: I
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
US-08-189-256A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-193-853-27
; Sequence 27, A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (215) 563-40 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                            ZIP: 19103-2307
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Zoubenko, Oleg V.
APPLICANT: Alison, Lori A.
APPLICANT: Carrer, Helaine
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: DNA Constructs and Methods for Stably
TITLE OF INVENTION: Transforming Plastids of Multicellular I
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
NUMBER OF SEQUENCES: 47
               FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US OF
                                                                                       PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
TELEPAX: (215) 563-4044
                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 1416 base pair
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                STREET: 1601 market
                                                                                                                                            APPLICATION NUMBER: FILING DATE:
                                                                                                                           CLASSIFICATION:
                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 60
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                                                                                                                                                                                                                                                                                                                                                               E: Dann, Dorfman, Herrell and 1601 Market Street Suite 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1416 base pairs
                                                                                                                                                                                                                                                                                                             USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Svab
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99.3%;
                                                                                                                                                             US/09/193,853
                                                                                         08/189,256
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      lular Plants
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REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4100
TELEPAX: (215) 563-4044
INFORMATION FOR SEQ ID NO: 27:

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GENERAL INFORMATION:
APPLICANT: Rutgers University
APPLICANT: Maliga, Pal
APPLICANT: Siddar, Samir R.
APPLICANT: Siddar, Samir R.
APPLICANT: Reddy, Siva Vanga
ITITLE OF INVENTION: Plastid Transformation in Arabidopsis
ITITLE OF INVENTION: Thaliana
FILE REFERENCE: 09/142,114
CURRENT APPLICATION NUMBER: US/09/142,114B
CURRENT PILING DATE: 1999-02-05
PRIOR APPLICATION NUMBER: PCT/US97/03444
PRIOR FILING DATE: 1997-03-06
NUMBER OF SEQ ID NOS: 7
SOFTMARE: FASESEQ for Windows Version 3.0
SEQ ID NO 7
LENGTH: 1417
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                                                                                                                                                                                                                                         ; OTHER INFORMATION: Sequence source:/note="synthetic construct"
; Patent No. 6376744
US-09-142-114B-7
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                                                                                                                                                                 Query Match
Best Local Similarity 99.3
Matches 133; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 7, Application US/09142114B Patent No. 6376744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 133; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: lin
MOLECULE TYPE:
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                            ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                TYPE: DNA
                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 1416 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  142 TGTÁGGGÁGGÁTT 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120 TGTAGGGAGGGATT 133
120
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                                                                                                 1 GCTCCCCCGCCGTCGATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                        CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                       91.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91.7%;
                                                                                                                                                                    Score 122; DB 3;
Pred. No. 1.1e-34;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
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                                                                                                                                                                                                       Length 1417;
                                                                                                                                                                        Indels
                                                                                                                                                                      1;
                                                                                                                                                                      Gaps
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Sequence 18, Application of Sequence 18, Application of Sequence 18, Application of Setting Sequence 18, Applicant: Seating Pal Applicant: Stating Sora Applicant: Stating Jeffrey Applicant: Stating Jeffrey Applicant: Scating Jeffrey Applicant: Alison, Lori A. Applicant: Alison, Lori A. Applicant: Kanevski, Ivan TITLE OF INVENTION: DNA Constructs and Methods for Stably TITLE OF INVENTION: Transforming Plastids of Multicellular Plants and TITLE OF INVENTION: Expressing Recombinant Proteins Therein Transpor OF SEQUENCES: 47
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US-08-189-256A-18
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                                                                                                                                                                                                                                                                                       US-08-189-256A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 563-4014
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                        Matches 132;
                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, V

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/189,256A

FILING DATE: 31-JAN-1994

CLASSIFICATION NUMBER: US 08/111,398

APPLICATION NUMBER: US 08/111,398

FILING DATE: 25-AUG-1993

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/518,763

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/518,763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLL.
STATE: USA
COUNTRY: USA
TTP: 19103-2307
PADABLE F
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                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DN
                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 161 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: 1601 Market CITY: Philadelphia
                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY:
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                                                83
                                                                                   61 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                                                                           23
                                                                                                                                                1 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                                                                                                                                                                                           91.0%;
Similarity 99.2%;
                                                                                                                             GCTCCCCCGCCGTCGATCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
      TGTAGGGAGGGAT 132
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1601 Market Street Suite 720
                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                DNA (genomic)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US o7/518,763
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                                                                                                                                                                                                                             Score 121; DB 2;
Pred. No. 1.2e-34;
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US-09-193-853-18
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US-09-193-853-18
                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 132; Conserv
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (215) 563-41
TELEFAX: (215) 563-4044
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Svab, Zora
APPLICANT: Staub, Jeffrey
APPLICANT: Zoubenko, Oleg V.
APPLICANT: Alison, Lori A.
APPLICANT: Alison, Lori A.
APPLICANT: Kanevski, Ivan
TITLE OF INVENTION: Transforming Plastids of Multicellular Plants and
TITLE OF INVENTION: Expressing Recombinant Proteins Therein
TRILE OF SEQUENCES: 47
                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 161 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
REGISTRATION NUMBER: 36,252
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Maliga, Pal
APPLICANT: Svab, Zora
                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US of FILING DATE: 01-MAY-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE:
 143
                                   120
                                                                     83
                                                                                                    61 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                                                                                          23 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSEE: Dann, Dorfman, Herrell and Skillman
T: 1601 Market Street Suite 720
Philadelphia
                                                                                                                                                                        GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                   TGTAGGGAGGGAT 132
TGTAGGGAGGGAT 155
                                                                     CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 142
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Pred. No. 1.2e-34;
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; OTHER INFORMATION: Synthetic Sequence US-09-202-316-7
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US-09-202-316-7
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                                                                                                                                                     APPLICANT: Pal Maliga
APPLICANT: Sumita Chaudhuri
TITLE OF INVENTION: Editing-Based Selectable
TITLE OF INVENTION: Editing-Based Selectable
TITLE OF INVENTION: Genes
FILE REFERENCE: Rut-96-06041
CURRENT APPLICATION NUMBER: US/09/202,316
CURRENT FILING DATE: 1999-06-01
PRIOR APPLICATION NUMBER: PCT/US97/10318
PRIOR FILING DATE: 1997-06-13
PRIOR PILING DATE: 1997-06-13
PRIOR FILING DATE: 1996-06-14
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; Patent No. 6297054
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US-09-202-316-4
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                                                                                                                                      SEQ ID NO 7
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Best Local Similarity
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LENGTH: 300
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CURRENT FILING DATE: 1999-06-01
PRIOR APPLICATION NUMBER: PCT/US97/10318
PRIOR FILING DATE: 1997-06-13
PRIOR PPLICATION NUMBER: 60/019,741
PRIOR FILING DATE: 1996-06-14
PRIOR FILING DATE: 1996-06-14
NUMBER OF SEQ ID NOS: 60
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                                              TYPE: DNA
ORGANISM: Artificial Sequence
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TITLE OF INVENTION: Editing-Based Selectable Plastid Marker
TITLE OF INVENTION: Genes
FILE REFERENCE: Rut-96-06041
                                         FEATURE:
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Sumita Chaudhuri
SUMNTION: Editing-Based Selectable Plastid Marker
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Query Match

91.0%;

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GenCore version 5.1.7 Copyright (c) 1993 - 2006 Biocceleration Ltd.

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Post-processing: Minimum Match 0%
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ALIGNMENTS

Query Match Best Local Similarity Matches 114; Conser	source ORIGIN		ORGANISM Carica Enkarys Sperma Sperma rosids REFERENCE 1 (base RUTHORS Town,C TITLE Whole; JOURNAL Unpubl COMMENT Contact	RESULT 1 CG026772/c CG026772 LOCUS CG026772 DEFINITION PGAAB74TR SEQUENCE. CG026772 VERSION CG026772.1 KEYWORDS GSS. SOURCE Carica pap
69.3%; Score 92.2; DB 10 larity 85.7%; Pred. No. 4.2e-19; Conservative 0; Mismatches 18	/organism="Carica papaya" /organism="Carica papaya" /mol type="genomic DNA" /cultivar="SunUp" /db xref="taxon:3649" /clone="PGAAB74" /clone=ib="PGAAB74" /clone lib="PGAA" /note="Vector: pHOS1; Site_1: BstXI; 2-3 kb genomic DNA inserted into pHOS1 using BstXI	TIGR TIGR TIGR TIGR 9712 Medical Center Drive, Rockville, MD 20850, USA. Pel: 301-338-0208 Fax: 301-838-0208 Email: cdtown@tigr.org Email: cdtown@tigr.org DNA provided by Ray Ming was isolated from cultivar SunUp trasmgenic for papaya ringspot virus coat protein gene Seq primer: TR Seq primer: TR Class: sheared ends. Location/Qualifiers	1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	CG026772 734 bp DNA PGAAB74TR PGAA Carica papaya genomic clone sequence. CG026772 CG026772.1 GI:33898928 CGSS. Carica papaya (papaya)
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Matches 114
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The Horticulture and Food Research Institute of New Zealand
To Mt Albert Rd, Mt Albert, Auckland, New Zealand
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CN930271.1 GI:48403084
EST
CN872595 498 bp mRNA linear EST 04-020807AAPA005328HT (AAPA) Royal Gala 24 DAFB fruit Malus x domestica cDNA clone AAPA005328, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 00 64 09 815 4200
Fax: 00 64 09 815 4201
Email: est@hortresearch.co.nz.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Beuning,L., Bowen,J., Crowhurst,R., Gleave,A., Janssen,B., McArtney,S., Newcomb,R., Ross,G., Snowden,K., Walton,E. an HorrResearch Apple EST Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Rosales; Rosaceae; Maloideae; Malus.
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000322AFBC002396HT (AFBC) Royal Gala pre-opened floral bud Malus
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                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone lib="(AFBC) Royal Gala pre-opened floral bud"
/note="Vector: pBK-CMV; Library sequenced by Genesis
Research & Development"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Malus x domestica"
/mol_type="mRNA"
/db_xref="taxon:3750"
/clone="AFBC002396"
/tissue_type="Floral bud"
/dev_stage="Pre-opening, flower at stage of nectar/pollen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                       68.9%;
85.1%;
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                                                                                                                                                                                                                                                                                                                                                       Score 91.6; DB 7;
Pred. No. 6.1e-19;
0; Mismatches 19;
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                                        EST 04-JUN-2004
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                                                         JOURNAL COMMENT
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AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            307 TAGGGATGGCTATATTTCTGGGAGCGAACTCCAGGCGAATATGAAGCGCATGGATACAAG
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Beuning,L., Bowen,J., Crowhurst,R.,
McArtney,S., Newcomb,R., Ross,G., S
HortResearch Apple EST Project
Unpublished (2004)
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Sequencing Facility
The Horticulture and Food Research Institute of New
120 Mt Albert Rd, Mt Albert, Auckland, New Zealand
Tel: 00 64 09 815 4200
Fax: 00 64 09 815 4201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Malus x domestica Malus x domestica
                                                     Unpublished (2004)
Contact: Le Dantec
                                                                                                                                                                                                                                          Prunus persica (peach)
Prunus persica
                                                                                                                                                                                                                                                                                                                                  AJ876197

AJ876197 Prunus persica fruit mesocarp plus epidermis 80 days after bloom Prunus persica cDNA clone PR0213A05, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Rosales; Rosaceae; Maloideae; Malus.
   Le Dantec,L., Cosson,P., Renaud,C., Rothan,C., Filippi,G., Laigret,F., Peach (Prunus persica (L.) Batsch)
                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Rosales; Rosaceae; Amygdaloideae; Prunus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: est@hortresearch.co.nz.
Location/Qualifiers
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                                                                                                                                                                       (bases 1 to 510)
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/clone lib="(AAPA) Royal Gala 24 DAFB fruit"
/note="Vector: pBK-CFW/; Library sequenced by Genesis
Research & Development"
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/db_xref="taxon:3750"
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Pred. No. 6.2e-19;
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Ross,G., Snowden,K., Walton,E. an
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Best Local Similarity 85.1
Conservative
                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
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                                                                                                                                                                                                                                                                                                                                                                    McArtney,S., Newcomb,R., Ross,G., Snowden,K., Walton,E. and Yauk,Y. HortResearch Apple EST Project Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                        Malus x domestica
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids I; Rosales; Rosaceae; Maloideae; Malus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CN871707 598 bp mRNA linear EST (010128AAPA001324HT (AAPA) Royal Gala 24 DAFB fruit Malus domestica cDNA clone AAPA001324, mRNA sequence.
                                                                                                                                                                                                                                                                                                             Sequencing Facility
The Horticulture and Food Research Institute of New Zealand
120 Mt Albert Rd, Mt Albert, Auckland, New Zealand
                                                                                                                                                                                                                                                                                                                                                            Contact: Gleave, A
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CN871707.1 GI:48257865
EST.
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GCTCCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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00 64 09 815 4201
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                                                                                                                /tissue_type="fruit"
/dev stage="24 days after full bloom"
/clone_lib="(AAPA) Royal Gala 24 DAFB fruit"
/note="Vector: pBK-CMV; Library sequenced by
Research & Development"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue_type="fruit mesocarp plus epidermis"
/dev.stage="80 days after bloom"
/clone_lib="Prunus persica fruit mesocarp plus
80 days after bloom"
                                                                                                                                                                                     /organism="Malus x domestica"
/mol type="mRNA"
/db xref="taxon:3750"
/clone="AAPA001324"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="mRNA"
/cultivar="Fantasia"
/db_xref="taxon:3760"
                                                                                                                                                                                                                                                          ocation/Qualifiers
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/mol_type="mRNA"
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                                                           68.9%;
85.1%;
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                                            Score 91.6; DB 7;
Pred. No. 6.4e-19;
0; Mismatches 19;
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6.3e-19;
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383 GCTTCCCCGCCGTGATCGAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Ake Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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Contact: Chris Town
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BOHKC79TR BOHK Brassica oleracea
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cdtown@tigr.org
DNA is from a doubled haploid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brassica oleracea
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                                            GGGAGGGATT 133
                                                                                                                                           GGATGGCTATATTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGTTGTA 123
                                                                                                                                                                                                                       CCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGGCAG 63
GACTTGGAAT 598
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                                                                                                                                                                                                                                                                                                   Conservative
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/note="Vector: pHOS1; Site_1: BstXI; 2-3 kb sheared /note="Vector: pHOS1; Site_1: BstXI; 2-3 kb sheared genomic DNA inserted into pHOS1 using BstXI linkers"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Brassica oleracea"
/mol_type="genomic DNA"
/strain="TO1000DH3"
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81.5%;
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764 bp

DNA

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CG026604
CG026604.1
GSS.
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Tel:
dePamphilis,C., Carlson,J., Ma,H., Soltis,D., Soltis,P., Oppenheimer,D., Frohlich,M., Doyle,J., Tanksley,S., Webb,M., Leebens-Mack,J., Landherr,L., Ilut,D. and Wall,K. Generation of ESTs from early flower buds of Persea americana Unpublished (2003)
                                                                                                                                                                                                             EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cdtown@tigr.org
DNA provided by Ray Ming was isolated from cultivar SunUp that
trasngenic for papaya ringspot virus coat protein gene
Seq primer: TF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Whole genome shotgun sequencing of Carica papaya Unpublished (2003)
Other_GSSs: PGAAE30TR
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                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Spermatophyta; Magnoliophyta; magnoliids; Laurales;
                                                                                                                                                                        Persea americana (avocado)
Persea americana
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wn,C.D., Van Aken,S., Utterback,T. and Fraser,C.M.
                                                                                            (bases 1 to 610)
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/mol_type="genomic DNA"
/cultivar="SunUp"
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genomic DNA inserted into pHOS1 using BstXI linkers"
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/clone="PGAAE30"
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Pred. No. 6.7e-19;
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                                                                         Ayele,M., Haas,B.J., Kumar,N., Wu,H., Xiao,Y., Van Aken,S., Utterback,T.R., Wortman,J.R., White,O.R. and Town,C.D. Whole genome shotgun sequencing of Brassica oleracea and its application to gene discovery and annotation in Arabidopsis genome Res. 15 (4), 487-495 (2005)
                                                                                                                                                                                   Brassica oleracea
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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BOMHD96TR BO_2_3_KB Brassica
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Plate: pam01-9ms1 row: a column: 06
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Fax: 814 865 9131
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208 Mueller Laboratory, Department
State University, University Park,
                                         Contact: Chris Town
                                                                                                                                                                                                                                                                    Brassica oleracea
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                                                                                                                                                                                                                                                                                                                                              genomic survey sequence.
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                                                             15805490
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   Medical Center Drive,
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/note="Vector: pBluescript SK (+/-); Site_1: EcoRI;
/note="Vector: pBluescript SK (+/-); Site_1: EcoRI;
Site_2: XhO1; This is a directionally cloned,
non-normalized library. This library has been generated
the Floral Genome Project (FGP). The Floral Genome Proje
is funded by NSF's Plant Genome Research Program
(DBI-0115684). More information about the project can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="PGN:pam01-9ms1-a06"
/db_xref="taxon:3435"
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/dev_stage="12-20 mm buds"
/lab_host="SOLR"
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Pred. No. 8.7e-19;
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BOMHD96,
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CN859023
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Matches 106; Conserv
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                                                                                                                                                                                                                                                  Contact: Gleave,A.
Sequencing Facility
The Horticulture and Food Research Institute of New
120 Mt Albert Rd, Mt Albert, Auckland, New Zealand
Tel: 00 64 09 815 4200
Pax: 00 64 09 815 4201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CN859023 380 bp mRNA linear EST 03 000728AAAAA008805HT (AAAAA) Royal Gala 59 DAFB fruit, seeds Malus x domestica cDNA clone AAAA008805, mRNA sequence. CN859023 CN859023.1 GI:48114953
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Rosales; Rosaceae; Maloideae; Malus.
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Class: shear
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DNA is from a doubled haploid provided by Tom Osborn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tel: 301-838-3523
Fax: 301-838-0208
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/mol type="genomic DNA"
/strain="TO1000DH3"
/db xref="taxon:3712"
/clone="BOMHD96"
                                                  /tissue_type="fruit"
/dev_stage="59 days after full bloom,
/clone_lib="(AAAA) Royal Gala 59 DAFB
removed"
                                                                                                                          /organism="Malus x domestica"
/mol type="mRNA"
/db xref="taxon:3750"
/clone="AAAA008805"
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/note="Vector: pHOS1; Site_1: BstXI; 2-3 kb sheared
/note="Vector: pHOS1; Site_1: BstXI 2-3 kb sheared
              /note="Vector: pBK-CMV; Library sequenced by Genesis
lesearch & Development"
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TITLE
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Best Local Sim
Matches 113;
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61 CAGGGATGGCTATATTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTG
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                                                                                                                                     95;
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Seq primer: -21fwdUniv
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: mccombie@cshl.org
Plate: eq27 row: e column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lita Annenberg Hazen Genome Sequencing Center Cold Spring Harbor Laboratory PO Box 100, Cold Spring Harbor, NY 11724, USA
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Katari,M., O'Shaughnessy,A., Palmer,L., Bahret,A., Baker,J.,
Ballja,V., Bell,M., Cunnius,D.M., King,L., Kirchoff,K., Kuit,K.,
Miller,B., Nascimento,L., Preston,R., Rodriguez,S., Santos,L.,
Shah,R., Vil,M.D., Zutavern,T., Bal,H., Dedhia,N. and McCombie,W.R.
Whole Genome Shotgun Reads from Brassica oleracea
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Brassica oleracea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 516 367 8884
Fax: 516 367 8874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished (2001)
Contact: W. Richard McCombie
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Location/Qualifiers
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                                                                                                                                                                                                                       /organism="Brassica oleracea"
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/db_xref="taxon:3712"
/clone="eg27e02"
/clone=lib="TO1000"
/note="vector: M13 for .x reads, pZero-2 for .b and .g reads; Site_1: EcoRV; DNA prepared as whole genome shotgun library from young, green leaves. May contain some plastid DNAs. DNA provided by Dr. Tom Osborn, University of Wisconsin-Madison, Department of Agronomy."
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85.6%;
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Pred. No. 1.3e-18;
0; Mismatches 20
                                                                                                                                                      Score 85.4; DB 9;
Pred. No. 6.6e-17;
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eg27e02 5',
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                                                         survey sequence.
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BH424823.1 GI:17610551
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Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S., Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.
Whole genome shotgun sequencing of Brassica oleracea and its application to gene discovery and annotation in Arabidopsis Genome Res. 15 (4), 487-495 (2005)
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BOMQT22TR BO_2_3_KB Brassica
genomic survey sequence.
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                                                                                                     BH424823 775 bp DNA line BOHNJ79TR BOHN Brassica oleracea genomic clone
                                              GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cdtcwn@tigr.org
DNA is from a doubled haploid provided by
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
               Brassica oleracea
                             Brassica oleracea
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/note="Vector: pHOS1; Site
genomic DNA inserted into
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/strain="TO1000DH3"
/db_xref="taxon:3712"
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82.1%;
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Pred. No. 8.2e-17;
0; Mismatches 23;
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S1 using BstXI linkers"
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Best Local :
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BH957918
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61 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
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1 (bases 1 to 775)

Nyele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S., Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D.

Whole genome shotgun sequencing of Brassica oleracea and its application to gene discovery and annotation in Arabidopsis Genome Res. 15 (4), 487-495 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                      Email: submissions@watson.wustl Plate: odf85 row: c column: 0 Seq primer: -21UPpOT forward
                                                                                              Genome Sequencing Center
Washington University School of Medicine
                                                                                                                                                                                          l (bases 1 to 713)
Delehaunty, K., Fewell, G., Fulton, L., McCombie, W.R., Nash, W., Rabinowicz, P.D. and Wilson, R.K.
Whole genome shotgun reads from Brassica oleracea
                                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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Class: sheared ends.
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DNA is from a doubled haploid
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Contact: Chris Town
Class: shotgun
                                                                                                                                              Contact: Richard K. Wilson
                                                                                                                                                                   Unpublished (2002
                                                                                                                                                                                                                                                                                                                                                                                            Brassica oleracea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9712 Medical Center Drive, Rockville, MD 20850, USA.
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/note="Vector: pHOS1; Site_1: BstXI; ;
genomic DNA inserted into pHOS1 using
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/mol type="genomic DNA"

/strain="TO1000DH3"

/db xref="taxon:3712"

/clone="BOHNJ79"
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82.1%;
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Pred. No. 8.2e-17;
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BstXI linkers"
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REFERENCE
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BZ483881 BZ483881.1 GI:26786279 GSS.
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
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                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 183)
Ayele, M., Haas, B.J., Kumar, N., Wu, H., Xiao, Y., Van Aken, S., Utterback, T.R., Wortman, J.R., White, O.R. and Town, C.D. Whole genome shotgun sequencing of Brassica oleracea and its application to gene discovery and annotation in Arabidopsis Genome Res. 15 (4), 487-495 (2005)
                                                                                                                                                                                        Class: sheared ends.
                                                                                                                                                                                                         DNA is from a doubled haploid provided by Tom Osborn Seq primer: TR
                                                                                                                                                                                                                                                Email: cdtown@tigr.org
                                                                                                                                                                                                                                                                                                                                              Other_GSSs: BOOAI29TF
Contact: Chris Town
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301-838-0208
                                                                                                                                                                                                                                                                                                         Medical Center Drive,
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/note="Vector: pOTw13; Whole genome shotgun library from flowering buds. DNA was purified from a crude nuclear prep using Brassica oleracea TO1000DH3 buds provided by Thosmas Osborn at the University of Wisconsin. Genomic DNA was provided by Pablo Rabinowicz (CSHL) and the shotgun library prepared at Washington University Genome Sequencing Center."
/clone="BOOAI29"
/clone lib="BO_1.6_2_KB_tot"
/note="Vector: pHOS1; Sīte_1: BstXI; 1.6-2
                                                                                      /mol_type="genomic DNA"
/strain="TO1000DH3"
                                                                                                                                                                  ocation/Qualifiers
                                                                   db_xref="taxon:3712"
                                                                                                                           organism="Brassica oleracea"
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/mol_type="genomic DNA"
/db_xref="taxon:3712"
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Pred. No. 1.7e-16;
0; Mismatches 24
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                                                                                                                                                                                                    ORIGIN
                                                                                                                                                            Query Match
Best Local
                                                                                                                                                  Matches 109;
 142
                       120
                                                82
                                                             61 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTTGGATACAGT
                                                                                                  22
                                                                                                                          ۲
                                                                                                                                                            Similarity
                                                                                                                   GCTCCCCCCCCTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                TAGGGGTAGCTATATTTCTGGGAGCGAACTCCATGCGAATATGAAGCGCATGGATACAAG
                                                                                                  GCTCCCTCGCTGTGATCGAATAAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
TTATGACTTGGAAT 155
                       TGTAGGGAGGGATT 133
                                                                                                                                                  Conservative
                                                                                                                                                                                                           total DNA inserted into pHOS1 using BstXI linkers"
                                                                                                                                                           62.9%;
                                                                                                                                               ; Score 83.6; DI
; Pred. No. 2.2e
0; Mismatches
                                                                                                                                                            DB 9;
.2e-16;
                                                                                                                                                 24;
                                                                                                                                                                       Length 183;
                                                                                                                                                 Indels
                                                                                                                                                 1;
                                                                                                                                                 Gaps
                                                141
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Search completed: April 18, 2006, 01:01:36 Job time : 2983 secs

mis rage Blank (uspto)

GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.

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Minimum DB
Maximum DB
                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0% Maximum Match 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched:
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                                                                                                                                                                                                                                                                                                                                              seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic search, using sw model
 N_Geneseq_21:*
1: geneseqn1980
2: geneseqn2900
3: geneseqn2001
4: geneseqn2001
5: geneseqn2002
7: geneseqn2002
7: geneseqn2003
9: geneseqn200
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11: geneseqn200
13: geneseqn200
14: geneseqn200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    April 17, 2006, 23:31:51; Search time 485 Seconds (without alignments) 1827.637 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                4996997 seqs, 3332346308 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
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133
                                                                                                                                                                                                                                                                            Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gctccccgccgtcgttcaa.....tacagttgtagggagggatt 133
geneséqn2003cs:*
geneseqn2003ds:*
geneseqn2004as:*
geneseqn2004bs:*
geneseqn2005s:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	`	Ed	ID
ш	133	100.0	133	2	AAV99599
N	122	91.7	165	N	AAX21409
ω	122	91.7	168	N	AAX21407
4.	122	91.7	176	12	ADM01282
ი 5	122	91.7	1134	N	AAT85195
o 0	122	91.7	1134	N	AAX21415
c 7	122	91.7	1143	10	ADE06202
œ	122	91.7	1148	12	AD085784
9	122	91.7	1332	12	AD085782
10	122	91.7	1416	N	AAX21432
11	122	91.7	1417	N	AAT85196
12	122	91.7	1417	10	ADE06203
13	122	91.7	5834	12	ADM01283
14	122	91.7	6465	12	ADM01293
15	122	91.7	6659	12	ADM01290
16	122	91.7	7549	12	ADM01292
17	121	91.0	161	N	AAX21423
18	121	91.0	1183	ω	AAZ61376
19	121	91.0	1208	N	AAX21433

This is the nucleotide sequence of plasmid-encoded plastid RNA polymerase (PEP) Prrn promoter. Isolated rpoB, atpB, clip and 16S rDNA promoter elements (see AAV9569-99) or homologues are used for producing exogenous proteins of interest in plant plastids. Also new is a DNA construct for

Isolated nuclear-encoded plastid RNA polymerase promoter sequences - useful for expressing exogenous protein in plant plastids such as chloroplasts.

WPI; 1999-070262/06.

Disclosure; Page 4; 79pp; English.

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45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20
102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	102.8	107	114.8	117.8	118.8	119.4	119.4	121	121	121	121
77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	77.3	80.5	86.3	88.6	89.3	89.8	89.8	91.0	91.0	91.0	91.0
10011	8684	7652	6477	4746	4363	4363	4363	3300	3204	2962	2569	233	220	201	184	119	142	4591	150	2391	1544	4671	2145	1920	1613
12	12	12	Ŋ	10	12	10	9	12	12	N	12	13	9	N	4	14	თ	6	N	œ	œ	w	æ	13	12
AD007377	ADO07360	ADO07359	AAF16797	ADE34240	ADL01707	ADE34324	ACC85346	ADI05017	ADI05016	AAX21408	ADI05018	ADT78239	ABS54934	AAT66301	AAF89143	ADX17034	ABS55361	ABS55360	AAX21406	ABX13737	ABX13719	AAZ61385	ABX13738	ADR70709	AD085788
Plastid	Ado07360 Plastid t	Ado07359 Plastid t	Chloropla	Ade34240 Plasmid p	Adl01707 Tobacco c	Ade34324 Plastid t	Acc85346 PCB42-94	Adi05017 gfp/BADH	Adi05016 aadA/BADH	Aax21408 targettin	Adi05018 aphA-6/np	Adt78239 Tobacco p	Abs54934 DNA seque	Aat66301 DNA of up	Aaf89143 Tobacco p	Adx17034 Tobacco 1	Abs55361 Nicotiana	Abs55360 DNA seque					Abx13738 Edited St	Adr70709 DNA const	Ado85788 Chimeric

ALIGNMENTS

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RESULT 1
AAV99599
ID AAV9
                                                                                                                     03-JUN-1997;
12-SEP-1997;
                                                                                                                                                                                               Promoter; nuclear encoded plastid RNA polymerase; NEP;
plastid encoded plastid RNA polymerase; PEP; Prrn; chloroplast;
transgenic plant; maize; ss.
                                                                                                                                          03-JUN-1998;
                                                                                                                                                        10-DEC-1998.
                                                                                                                                                                                   Unidentified.
                                                                                                                                                                                                                            Prrn PEP promoter.
                                                                                                                                                                                                                                           27-AUG-2003
29-MAR-1999
                                                                                                                                                                                                                                                                AAV99599;
                                                                                                                                                                                                                                                                              AAV99599 standard; DNA; 133 BP.
                                                                                                       (RUTF ) UNIV RUTGERS STATE NEW JERSEY.
                                                                                                                                                                     WO9855595-A1.
                                                                                        P,
                                                                                        Silhavy D,
                                                                                                                                                                                                                                          (revised)
(first entry)
                                                                                                                    97US-0048376P.
97US-0058670P.
                                                                                                                                         98WO-US011437
                                                                                         Sriraman P;
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Query Match
Best Local Sim
Matches 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transcription unit encoding at least one exogenous protein of interest, and (ii) a first nuclear-encoded plastid (NEP) RNA polymerase promoter and a second PEP RNA polymerase promoter in tandem operably linked to the transcription unit, where expression of the transcription unit is regulated by the promoters. Use of the novel constructs facilitates transformation of a wide range of plant species, allowing ubiquitous expression of a transforming DNA in plastids (e.g. chloroplasts) of multicellular plants. Preferred promoter combinations are the Prrn PEP promoters combined with clpP type II NEP promoter in dicots and the Prrn PEP promoter combined with the clpP type II NEP promoter in monocots and dicots. (Updated on 27-AUG-2003 to correct OS field.)
The invention relates to a DNA construct, containing a non-lethal st marker (e.g antibiotic resistance) under the control of a 5' regulats sequence and a 3' stabilizing sequence, for stably transforming the plastids of multicellular plants and allowing expression of heterolc proteins especially non-native plastid or plant proteins. This seque
                                                                                                                                                                                                                                                                                                 01-MAY-1990;
25-AUG-1993;
                                                                                                        Disclosure; Fig 18A; 101pp; English.
                                                                                                                                        New DNA construct containing an antibiotic resistance marker - stably transforming the plastids of multicellular plants.
                                                                                                                                                                                                WPI; 1999-189744/16
                                                                                                                                                                                                                                Maliga
                                                                                                                                                                                                                                                                                                                                                     31-JAN-1994;
                                                                                                                                                                                                                                                                                                                                                                                         02-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                         US5877402-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nicotiana tabacum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Construct; marker; antibiotic resistance; regulatory sequence; promoter; stabilizing sequence; plastid; plant; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Prrn promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX21409;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX21409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      stably transforming the plastids of higher plants comprising:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard; DNA; 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGATGGCTATATTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTCCCCGCCGTTCGATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                                                                                                                                                                              Maliga P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                  RUTGERS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence
                                                                                                                                                                                                                                                                                                 90US-00518763.
93US-00111398.
                                                                                                                                                                                                                                                                                                                                                   94US-00189256
                                                                                                                                                                                                                                                               STATE NEW JERSEY.
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                                                                                                                                                                                                                                Staub JM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      133
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Pred. No. 3.2e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                    non-lethal stable
f a 5' regulatory
                   heterologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                            useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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RESULT 3
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                The invention relates to a DNA construct, containing a non-lethal stable marker (e.g antibiotic resistance) under the control of a 5' regulatory sequence and a 3' stabilizing sequence, for stably transforming the plastids of multicellular plants and allowing expression of heterologous proteins especially non-native plastid or plant proteins. This sequence corresponds to the regulatory region of the plasmid pTNH32 and comprises the 16S ribosomal RNA operon promoter (Prrn), the rbcL leader sequence including the ribosome binding site and the first 5 amino acids coding sequence from the ribolose-1,5-bisphosphate decarboxylase/oxygenase large makes the control ribosome binding site and the first 5 amino acids coding sequence from the ribolose-1,5-bisphosphate decarboxylase/oxygenase large
                                                                                                                                                                                                  New DNA construct co
stably transforming
                                                                                                                                                                                                                                                                                                                          01-MAY-1990;
25-AUG-1993;
                                                                                                                                                                          Disclosure;
                                                                                                                                                                                                                                             WPI; 1999-189744/16.
                                                                                                                                                                                                                                                                     Maliga
                                                                                                                                                                                                                                                                                                                                                                   31-JAN-1994;
                                                                                                                                                                                                                                                                                                                                                                                               02-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         stabilizing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Prrn/rbcL/Rubisco regulatory region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-MAY-1999
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                                                                                                                                                                                                                                                                                               (RUTF ) UNIV RUTGERS STATE NEW JERSEY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nicotiana tabacum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Construct; marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                corresponds to the 16S ribosomal RNA operon promoter (Prrn)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
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                         (Rubisco)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard; DNA; 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCCCCCGCCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165 BP; 40 A; 31 C;
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                                                                                                                                                                         Fig 8; 101pp; English.
                                                                                                                                                                                                                                                                     Maliga P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                           90US-00518763
93US-00111398
                                                                                                                                                                                                                                                                                                                                                                    94US-00189256
                        gene
                                                                                                                                                                                                 containing an antibiotic resistance marker - ng the plastids of multicellular plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antibiotic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91.7%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plastid;
                                                                                                                                                                                                                                                                      Staub
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                                                                                                                                                                                                                                                                      Ä
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Pred. No. 2.9e-33;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 G; 33 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     resistance;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         plant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     regulatory sequence; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 165;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ب</u>
                                                                                                                                                                                                                useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                    large
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
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Query Match
Best Local Sim
Matches 133;

Similarity

91.7%; 99.3%;

Score 122; Pred. No. 2.

DB 2; .9e-33; 0 U;

Length 168;

Conservative

0;

Mismatches

0

Indels

1;

Gaps

۲.

Sequence

168

BP;

44 A; 32 C;

57

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35 T;

0 Other;

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RESULT 4
ADM01282
ID ADM0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                          The invention relates to a DNA vector (A) for stable transformation and expression of genes (I) in plastids, where (I) is inserted in an artificial intergene region (AIR) formed by combining two 5'-untranslated regions (5'-UTRs) of genes that transcribe in different directions and are derived from plants of different divisions or classes. (A) are used to produce transplastomic angiosperms that have improved agronomic properties (e.g. resistance to biotic or abiotic stress) or express a very wide range of agricultural, veterinary, pharmaceutical, nutritional or industrial products, e.g. enzymes, vaccinating antigens, cytokines or immunoglobulins. Use of (A) eliminates the need for a transposon for gene
                                           homologous recombination. (A) provides efficient and stable expression genes without causing any functional alterations. This sequence represents the plastid 16S ribosomal RNA subunit promoter sequence used
                                                                                                                                                                                                                                                                                                                                                               DNA vector for transformation and expression in producing pharmaceutical proteins or improving gene inserted in artificial intergene region.
                                                                                          insertion; inserted genes do not require promoters and terminators; and the structure of flanking sequences in (A) ensures universal applicability. Also any selection marker in (A) can be eliminated by
                                                                                                                                                                                                                                                                                                                                   Example 1; SEQ ID NO 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-SEP-2002; 2002CU-00000208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-SEP-2003; 2003WO-CU000009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vector; plastid; artificial intergene region; plant; transplastomic angiosperm; agronomic property; stres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plastid 16S ribosomal RNA subunit promoter sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADM01282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Selman-Housein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (INGG-) CENT ING GENETICA & BIOTECNOLOGIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rbcL gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADM01282 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                       2004-316131/29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGGGATGGCTATA-TTCTGGGAGCGAACTCCCGGGCGAATACGAAGCGCTTGGATACAGT
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                               the vectors of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sosa G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Aguiar Cabeza E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  133
                                                                                                                                                                                                                                                                                                                                 74pp; Spanish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gonzalez Quintero ADC;
                                                                                                                                                                                                                                                                                                                                                                                                    Ħ
                                                                                                                                                                                                                                                                                                                                                                                 n plastids, useful e.g. agronomic properties,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             stress
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         resistance;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               119
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Query Match Best Local Similarity

Score Pred. 60 <u>ი</u>

122; DB 12; No. 2.9e-33;

Length 176;

Sequence 176 BP;

39

A; 37 C; 91.7%; 99.3%;

40 T;

0 U; 0

Other,

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RESULT 5
AAT85195/c
                        This sequence comprises the plastid targeting region of plasmid pGS31A. CC This plasmid carries a specthromycin resistance gene (aadA) flanked by CC Arabidopsis plastid DNA sequences that target its insertion between trnv and the rps 12/7 operon. It was produced by ligating the chimeric aadA (C gene from Ecl1236II into the unique HincII site of plasmid pGS7 (see AAT85194). A novel method of production of transplastomic plants (C pGS85A or pGS7, to a plastid genome of plant cells in culture, selecting (C pGS85A or pGS7, to a plastid sand regenerating these to plants. The transforming DNA comprises (i) (i) several targetting sequences (i.e. plastid DNA sequences from the genome to be transformed) to allow (C plastid DNA sequences from the genome to be transformed) to allow (C plastid DNA sequences from the genome to be transformed) to allow (ii) similar regulatory regions controlling a foreign gene of interest, and (iv) at least one cloning site for insertion of the foreign gene (ii) similar regulatory regions controlling a foreign gene of interest, and (iv) at least one cloning site for insertion of the foreign gene cadjacent to the marker gene. The method is used to transform cruciferous plants, e.g. Brassica species. The combination of homologous recombination, selectable marker and use of plastid xpression of foreign genes in plastids, rather than in the nucleus, avoids risk of the foreign genes in plastids, rather than in the nucleus, avoids risk of the foreign genes in plastids, rather than in the nucleus, avoids risk of the foreign genes in plastids.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-MAR-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brassica; cruciferous plant; vector; plasmid pGS31A; spectinomycin resistance; selectable marker; aadA gene; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAT85195 standard; DNA; 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          targetted DNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maliga P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-SEP-1997.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plastid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of trans:plastomic plants - by transfection with plastid DNA, specifically for Cruciferous plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sikdar SR,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6; 45pp; English.
foreign gene in the pollen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Reddy SV
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   provides
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
                                                                     Query Match
Best Local S
Matches 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Sim
Matches 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                 Sequence
                                                                                                                                                                                                          plastids of multicellular plants and allowing expression of heterologous proteins especially non-native plastid or plant proteins. This sequence corresponds to the selectable marker gene for the plasmid pPRV112A
                                                                                                                                                                                                                                                                                  sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maliga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-1990;
25-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JAN-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Construct; marker; antibiotic resistance; regulatory sequence; promoter; stabilizing sequence; plastid; plant; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Selectable marker gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX21415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAX21415 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1134 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein expression, permits simultaneous incorporation of several genes and avoids the positional effects and gene silencing associated with nuclear transformation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (RUTF ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                              invention relates to a DNA construct, containing a non-lethal stable ker (e.g antibiotic resistance) under the control of a 5' regulatory tence and a 3' stabilizing sequence, for stably transforming the
                                                                                                                                                                                                                                                                                                                                                                                                                       DNA construct containing an antibiotic resistance marker -
oly transforming the plastids of multicellular plants.
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                                                                        al Similarity
                                                                                                                                                                                                                                                                                                                                                                              21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZS,
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GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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                                                                     91.7%;
ilarity 99.3%;
Conservative
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                                                                                                                                                                 BP;
                                                                                                                                                                                                                                                                                                                                                                         20E; 101pp; English.
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93US-00111398.
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                                                                                                                                                                    291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
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99.3%;
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                                                                                              Score 122;
Pred. No. !
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No. 5.
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.2e-33;
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                                                                                                                 Length 1134;
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                                                                        Indels
                                                                                                                                                                 Other;
                                                                     1;
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Best Local Similarity

91.7%; 99.3%;

Score 122; Pred. No.

5.2e-33; 281 T; 0

> Length 1143; 0 Other;

Query Match

Sequence

1143

BP;

297 A; 313 C;

252 G;

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RESULT 7
ADE06202/
The present invention relates to a new improved vector (pZS391B) for CC transforming plastids of higher plants. The vector comprises a targeting segment having first and second chimeric targeting sequences for CC facilitating recombination within the plastid genome, each of which CC flanks at least one transgene of interest and has a first portion derived CC from the plant species being targeted for transformation, and a second CC portion derived from a different plant species. The transgene constitutes CC a monocistronic or polycistronic expression unit comprising a selectable CC marker gene and a foreign gene of interest. It encodes a selectable CC marker, harbicide resistance or drought resistance gene. The selectable CC marker gene comprises kanamycin, streptomycin or spectinomycin. The plastids are chloroplasts. The vector is useful for transforming plastids CC of higher plants (e.g. Brassica plants), and for creating transplastomic CC regeneration of transformed plants following the delivery of beneficial CC DNA molecules. The present sequence represents Nicotiana tabacum CC targeting region of plasmid pGS31A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-MAR-1997;
05-FEB-1999;
13-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New improved vector for transforming plastids of higher plants and comprising a targeting segment having first and second chimeric targeting sequences, useful for creating transplastomic plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Brassica plant; transplastomic plasmid pGS31A; plant; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; SEQ ID NO 2; 35pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-852834/79
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nicotiana tabacum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vector; pZS391B; plastid transformation; higher plant; transgene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nicotiana tabacum targeting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-JAN-2004
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) SKARJINSKAIA I
) MALIGA Z S.
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99US-00142114.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     plant; DNA delivery; targeting
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RESULT 8
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ID 085784
ID 085784
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XX ADO8
AX ADO8
AX ADO8
AX Chim
XX HPPI
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PN FREE
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  Query Match
Best Local Similarity
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                                                                                                                                                                                               The invention relates to a novel chimeric gene (CG) comprising at least one elementary chimeric gene (eCG) that consists of, functionally linked in the direction of transcription, a promoter (P), functional in plants, a sequence encoding hydroxyphenyl pyruvate dioxygenase (HPPD) and a terminator, functional in plants. The chimeric genes of the invention are used to impart resistance to herbicides that target HPPD, so that plants containing CG can be safely treated, for weed control, with these herbicides. Plastid transformation, which involves a double homologous
                                                                             Sequence 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New chimeric gene including a sequence for hydroxyphenyl pyruvate dioxygenase, useful for preparing transgenic plants resistant to herbicides that target this enzyme, by plastid transformation.
                                                                                                                       recombination, is precisely targeted, avoiding positional effects that occur during nuclear transgenesis. The present sequence represents an elementary chimeric gene of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-DEC-2002; 2002FR-00015975
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nicotiana tabacum
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ene; elementary chimeric gene; h plant; weed control; herbicide.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wisniewski
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 3; 47pp; French
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                                                                             ВP;
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                                                                          314 A;
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99.3%;
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  Score 122;
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5.2e-33;
                                                                       271 T; 0
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                       Length 1148;
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                                                                          0 Other;
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RESULT 9
ADO85782
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                                     The invention relates to a novel chimeric gene (CG) comprising at least one elementary chimeric gene (eCG) that consists of, functionally linked in the direction of transcription, a promoter (P), functional in plants, a sequence encoding hydroxyphenyl pyruvate dioxygenase (HPPD) and a terminator, functional in plants. The chimeric genes of the invention are used to impart resistance to herbicides that target HPPD, so that plants containing CG can be safely treated, for weed control, with these herbicides. Plastid transformation, which involves a double homologous recombination, is precisely targeted, avoiding positional effects that
                                                                                                                                                                                                                                                                                                           New chimeric gene including a sequence for hydroxyphenyl pyruvate dioxygenase, useful for preparing transgenic plants resistant to herbicides that target this enzyme, by plastid transformation.
occur during nuclear transgenesis. The preelementary chimeric gene of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nicotiana tabacum
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DB; ADO85783.
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/product= "AADA-111"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                     NO 1; 47pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ary chimeric gene; l
control; herbicide
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                     The present sequence represents
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Query Match Best Local Similarity

91.7**%**; 99.3**%**;

Score Pred.

122; DB 12; No. 5.4e-33;

Length 1332;

Sequence 1332 BP;

341 A;

272 C; 329 G;

390 T; 0 U; 0 Other;

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RESULT 10
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ID AAX21
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                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a DNA construct, containing a non-lethal stable marker (e.g. antibiotic resistance) under the control of a 5' regulatory sequence and a 3' stabilizing sequence, for stably transforming the plastids of multicellular plants and allowing expression of heterologous proteins especially non-native plastid or plant proteins. This sequence corresponds to the regulatory region Prrn(L)/rbcL(S)/kan/TpsbA(L) from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Fig 28A; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New DNA construct containing an antibiotic resistance marker - useful stably transforming the plastids of multicellular plants.
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25-AUG-1993;
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                                                                               CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGGCGAATACGAAGCGCTTGGATACAGT
                                                                                                                                                 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                                                                                                                                                    GCTCCCCCGCCGTCGATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
                                                                                                                                                                                                                                                                                                                                                        1416
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  TGTAGGGAGGGATT
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                                                                                                                                                                                                                                                                                                                                                                                                           pTNH7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence; plastid; plant; ss.
                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                        B₽;
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93US-00111398
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                                                                                                                                                                                                                                                                           91.7%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                        A; 322 C;
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                                                                                                                                                                                                                                                                              Score 122;
Pred. No. !
                                                                                                                                                                                                                                                      Mismatches
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This sequence comprises the plastid targeting region of plasmid pGS85A.

CC This plasmid carries a neomycin phosphotransferase (neo) gene that

CC confers kanamycin resistance gene, flanked on both sides by Arabidopsis

CC plastid targeting sequences. It was produced by ligating the neo gene

CC into the unique HincII site of plasmid pGS7 (see AAT85194). A novel

CC method of producing transplastomic plants involves: delivering

CC transforming DNA, preferably cloned in pGS1A, pGS85A or pGS7, to a

CC plastid genome of plant cells in culture, selecting cells with

CC comprises (i) (i) several targetting sequences (i.e. plastid DNA

CC recombination, (ii) 5 and 3 regulatory regions from plastid DNA

CC recombination, (ii) 5 and 3 regulatory regions from plastid DNA

CC recombination, (ii) 5 and (iv) at a cloning site for insertion of the

CC foreign gene of interest, and (iv) at a cloning site for insertion of the

CC ruciferous plants, e.g. Brassica species. The combination of homologous

CC recombination, selectable marker gene. The method is used to transform

CC improves generation of stably transformed plants. Expression of foreign

CC genes in plastids, rather than in the nucleus, avoids risk of

CC protein expression, permits simultaneous incorporation of several genes

CC nuclear transformation

CC nuclear transformation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
AAT85196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic. Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 7; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Production of trans:plastomic plants - by transfection with plastid targetted DNA, specifically for Cruciferous plants.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plastid; transformation; transplastomic plant; transgenic plant; Brassica; cruciferous plant; vector; plasmid pGS85A; kanamycin resistance; neomycin phosphotransferase; neo gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-MAR-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           selectable marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plastid targeting region of plasmid pGS85A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-MAR-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAT85196 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1997-470543/43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "kanamycin resistance gene"
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Sequence 1417

B₽;

312 A; 323 C;

379 ç 403 T; 0 ₽;

0 Other;

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RESULT 12
ADE06203
ID ADE06
CC The present invention relates to a new improved vector (pZS391B) for CC transforming plastids of higher plants. The vector comprises a targeting Segment having first and second chimeric targeting sequences for CC facilitating recombination within the plastid genome, each of which CC flanks at least one transgene of interest and has a first portion derived CC from the plant species being targeted for transformation, and a second CC portion derived from a different plant species. The transgene constitutes CC amonocistronic or polycistronic expression unit comprising a selectable CC marker gene and a foreign gene of interest. It encodes a selectable CC marker gene and a foreign gene of interest. It encodes a selectable CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises kanamycin, streptomycin or spectinomycin. The CC marker gene comprises and compositions of the invention facilitate the CC regeneration of transformed plants following the delivery of beneficial CC DNA molecules. The present sequence represents the plastid targeting
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Best Local
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05-FEB-1999;
13-MAR-2000;
                                                                                                                                                                                                                                                                                                                                           New improved vector for transforming plastids of higher plants and comprising a targeting segment having first and second chimeric targeting sequences, useful for creating transplastomic plants.
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(SKAR/)
(MALI/)
                                                                                                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Maliga P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vector; pZS391B; plastid transformation; higher plant; transgene; Brassica plant; transplastomic plant; DNA delivery; targeting reg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-JUN-2003; 2003US-00460716
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) MALIGA P.
) SKARJINSKAIA
) MALIGA Z S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ca plant;
1 pGS85A;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 1417
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                                                                                                                                                                                                                                                                                                                SEQ
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99US-00142114.
2000US-00524087.
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99.3%;
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                                                                                                                                                                                                                                                                                                           35pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Maliga ZS
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                                                                                                                                                                                                                                                                                                               English
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RESULT 13
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                                                                  The invention relates to a DNA vector (A) for stable transformation and expression of genes (I) in plastids, where (II) is inserted in an artificial intergene region (AIR) formed by combining two 5'-untranslated regions (5'-UTRs) of genes that transcribe in different directions and are derived from plants of different divisions or classes. (A) are used to produce transplastomic angiosperms that have improved agronomic properties (e.g. resistance to biotic or abiotic stress) or express a very wide range of agricultural, vectoriary, pharmaceutical, nutritional or industrial products, e.g. enzymes, vaccinating antigens, cytokines or immunoglobulins. Use of (A) eliminates the need for a transposon for gene
         insertion; inserted genes do not require promoters and terminators; the structure of flanking sequences in (A) ensures universal applicability. Also any selection marker in (A) can be eliminated by homologous recombination. (A) provides efficient and stable expressi
                                                                                                                                                                                                                                                                   DNA vector for transformation and expression in plastids, useful e.g. for producing pharmaceutical proteins or improving agronomic properties, has gene inserted in artificial intergene region.
                                                                                                                                                                                                                                           Example 1;
                                                                                                                                                                                                                                                                                                                                   WPI; 2004-316131/29.
                                                                                                                                                                                                                                                                                                                                                                               Selman-Housein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vector; plastid; artificial intergene region; plant; transplastomic angiosperm; agronomic property; stres
                                                                                                                                                                                                                                                                                                                                                                 Kamos
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasmid pVTPA DNA sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-SEP-2003; 2003WO-CU000009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rbcL gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1417 BP; 312 A; 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           region of plasmid pGS85A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 143
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                                                                                                                                                                                                                                                                                                                                                                 Gonzalez
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                                                                                                                                                                                                                                                                                                                                                                                                              CENT ING GENETICA & BIOTECNOLOGIA.
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99.3%;
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                                                                                                                                                                                                                                          Spanish.
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Mismatches 0
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            and stable expression
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functional alterations. This

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RESULT 14
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Best Local Simi
Matches 133;
                                                                     expression of genes (1) in plastids, where (1) is inserted in an artificial intergene region (AIR) formed by combining two 5'-untranslated regions (5'-UTRs) of genes that transcribe in different directions and are derived from plants of different divisions or classes. (A) are used to produce transplastomic angiosperms that have improved agronomic properties (e.g. resistance to biotic or abiotic stress) or express a very wide range of agricultural, veterinary, pharmaceutical, nutritional or industrial products, e.g. enzymes, vaccinating antigens, cytokines or immunoglobulins. Use of (A) eliminates the need for a transposon for gene
                                                                                                                                                                                                                                                                            DNA vector for transformation and expression in plastids, useful e.g. producing pharmaceutical proteins or improving agronomic properties, gene inserted in artificial intergene region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADM01293 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 represents an example of the vector of the invention.
           insertion; inserted genes do not require promoters and terminators; and the structure of flanking sequences in (A) ensures universal applicability. Also any selection marker in (A) can be eliminated by homologous recombination. (A) provides efficient and stable expression.
                                                                                                                                                                                                                                                                                                                                                                                     Selman-Housein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plasmid pVTPA-Bar DNA sequence.
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                                                                                                                                                                                                                The invention relates to a DNA vector (A) for stable transformation
                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-SEP-2002; 2002CU-00000208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 vector; plastid; artificial intergene region; plant;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     transplastomic
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                                                                                                                                                                                                                                             SEQ ID NO 25; 74pp; Spanish.
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99.3%;
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         (A) provides efficient and stable expression
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Pred. No. 8
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RESULT 15
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Best Local S
Matches 133
or industrial products, e.g. enzymes, vaccinating antigens, cytokines or immunoglobulins. Use of (A) eliminates the need for a transposon for gene insertion; inserted genes do not require promoters and terminators; and the structure of flanking sequences in (A) ensures universal applicability. Also any selection marker in (A) can be eliminated by homologous recombination. (A) provides efficient and stable expression of
                                                                                      The invention relates to a DNA vector (A) for stable transformation and expression of genes (I) in plastids, where (I) is inserted in an artificial intergene region (AIR) formed by combining two 5'-untranslated regions (5'-UTRs) of genes that transcribe in different directions and are derived from plants of different divisions or classes. (A) are used to produce transplastomic angiosperms that have improved agronomic properties (e.g. resistance to biotic or abiotic stress) or express a very wide range of agricultural, veterinary, pharmaceutical, nutritional
                                                                                                                                                                                                                                                            DNA vector for transformation and expression in plastids, useful e.g. producing pharmaceutical proteins or improving agronomic properties, i gene inserted in artificial intergene region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vector; plastid; artificial intergene region; plant;
transplastomic angiosperm; agronomic property; stress
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Ramos Gonzalez O;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               represents the plasmid pVTPA-Bar, an example of the vector of the
                                                                                                                                                                                                                                                                                                                                                                                                   (INGG-) CENT ING GENETICA & BIOTECNOLOGIA.
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                                                                                                                                                                                                                              SEQ ID NO 22; 74pp;
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CC genes without causing any functional alterations. This sequence
CC represents the plasmid pVTPA-aadA, an example of the vector of the
CC invention.

XX

SQ Sequence 6659 BP; 1790 A; 1490 C; 1636 G; 1743 T; 0 U; 0 Other;

Query Match
Best Local Similarity 99.3%; Pred. No. 8.8e-33;
Matches 133; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Matches 133; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Db 1918 GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG 60

PO 1 10 CAGGATGGCTATA-TTCTGGGAGCGAATACGAAGAGCTCGTGGATACAGT 119

Db 1978 CAGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119

Db 1978 CAGGGATGGCTATATTTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 2037

OY 120 TGTAGGGAGGGATT 133

Db 2038 TGTAGGGAGGGATT 2051

Search completed: April 17, 2006, 23:45:51

Job time : 487 secs
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GenCore version 5.1.7
Copyright (c) 1993 - 2006 Biocceleration Ltd.

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seq length: 2000000000
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AX798909 Sequence	AX798125 Sequence	U12813 Transformat		X70938 N.plumbagin		U12810 Transformat	U12809 Transformat	V00165 Tobacco chl	AX537601 Sequence	BD180933 Method of	AR242682 Sequence	AR145914 Sequence	CS001461 Sequence	DQ073476 Chloropla		BD174931 A system	BD235379 Translati	AY575999 Chloropla	CQ830293 Sequence		_		AR171710 Sequence		AY895148 Chloropla	AJ312393 Chloropla	

nigher plants. BD106711 BD106711 133 bp DNA Plastid promoters for transgene expression higher plants. linear PAT 18-SEP-2002 in the plastids of

ALIGNMENTS

RESULT 1 BD106711

REFERENCE AUTHORS TITLE ACCESSION VERSION KEYWORDS SOURCE FEATURES source COMMENT DEFINITION FOCUS JOURNAL ORGANISM higher plants

Patent: JP 2002502262-A 32 22-JAN-2002;

RUTGERS THE STATE UNIVERSITY OF NEW JERSEY

PN JP 2002502262-A/32

PD 22-JAN-2002

PD 22-JAN-2002

PP 03-JUN-1998 JP 199502824

PR 03-JUN-1997 US 60/048376,12-SEP-1997 US 60/058670 PI

PAL MALIGA, DANIEL SILHAVY, PRIYA SRIRAMAN

PC C12N5/04, C12N15/00, C12N15/09, C12N15/29, C12N15/82, A01H1/00, PC

A01H3/00,

PC A01H3/00

CC Strandedness: Single;

FH Key Location/Qualifiers. synthetic construct
synthetic construct
other sequences, artificial sequences.
1 (bases 1 to 133)
Maliga,P., Silhavy,D. and Sriraman,P.
Plastid promoters for transgene expression BD106711.1 GI:23201529 JP 2002502262-A/32. /organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630" Location/Qualifiers in the plastids of.

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ORIGIN

Best Local Sin Matches 133; Query Match

y Match 100.0%; s Local Similarity 100.0%; s hes 133; Conservative 0;

Score 133; DB 6; Pred. No. 1e-33;); Mismatches 0;

Length 133; Indels

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Gaps

60

GCTCCCCCGCCGTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG GCTCCCCCCCCTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG

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RESULT 3
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Patent: US 6624296-A 32 23-SEP-2003;
Patent: US 6624296-A 32 23-SEP-2003;
Rutgers, The State University of New
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Maliga,P., Silhavy,D. and Sriraman,P.
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Location/Qualifiers
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/note="Description of Artificial Sequence: Synthetic DNA fragment codifying for the promoter region of the plastid 16S ribosomal RNA (Prrn), with added restriction sites."
                                   organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
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AR368829
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Maliga,P., Sikdar,S. and Reddy,S.V.
Plastid transformation in Arabidopsis thaliana
Patent: US 6376744-A 6 23-APR-2002;
Rutgers, The State University of New Jersey; No
Tissot,G., Wisniewski,J.P. and Ferullo,J.M. Expression of hydroxyphenylpyruvate dioxygenase plants for herbicide tolerance Patent: WO 2004055191-A 3 01-JUL-2004;
                                                                     synthetic construct synthetic construct other sequences; artificial sequences.
                                                                                                                                                      Sequence 3 from Patent WO2004055191.
CQ830289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GCTCCCCCGCCGTTCGTTCAATGAGAATGGATAAGAGGCTCGTGGGATTGACGTGAGGGGG
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/mol_type="genomic
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Pred. No. 5.9e-30;
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                                                                    Best Local Similarity Matches 133; Conserv
                                                                                                       Query Match
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Patent: WO 2004053133 - A 11 24-JUN-2004;
Bayer CropScience S.A. (FI
Location/Qualifiers
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Sequence 11 from Patent CQ828070
CQ828070.1 GI:49731589
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33; Conservative
TGTAGGGAGGGATT 134
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                                                                      Conservative
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/mol type="taxon:32630"
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/note="5'rbcL"
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[mol_type="unassigned DNA"]
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synthetic construct
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/db_xref="taxon:32630"
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99.3%;
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patent US 6376744.
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Plastid transformation in A
Plant Cell Rep. 18, 20-24 (
3 (bases 1 to 3136)
Serino, G. and Maliga, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  143
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AP061065
3136 bp DNA linear SYN 14-1
Plastid transformation vector pGS31A 16S ribosomal RNA gene,
partial sequence; aminoglycoside 3'-adenyltransferase (aada)
complete cds.
AF061065
AF061065
                                                                                                                                                                                                                                                                                                                                 High-frequency plastid transformation chimeric aadA gene
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Plastid transformation in Arabidopsis thaliana
Patent: US 6376744-A 7 23-APR-2002;
Rutgers, The State University of New Jersey; No
                                                                                                                                                                              Frelinghuysen Road, Piscataway,
                                                                                                                                                                                           Submitted (22-APR-1998) Waksman
                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                         8381537
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Maliga, P., Sikdar, S.
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complement (<1. .. 599)
/product = "165 ribosomal RNA"
complement (831. .. 902)
/product = "tRNA-Val"
                                                                             /organism="Plastid transformation vector pGS31A"
/mol_type="genomic DNA"
/mol_type="genomic DNA"
/db_xref="rtaxon:83809"
/note="plastid transformation vector, targeting
into the inverted repeat region of the plastid g
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/mol_type="genomic |
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1. .1417
                                                      note="Arabidopsis thaliana plastid DNA"
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in Arabidopsis thaliana
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Best Local Similarity Matches 133; Conserv
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                                                                                                                                                                                                                 Cloning vector pPRV112A
Cloning vector pPRV112A
other sequences; artificial sequences; vectors.
1 (bases 1 to 4126)
Zoubenko,O.V., Allison,L.A., Svab,Z. and Maliga
Efficient targeting of foreign genes into the t
                                                        Direct Submission
Submitted (01-AUG-1994) Peter
Rutgers University, Old Hoes
Location/Qualifiers
                                                                                                                                                                                  genome
Nucleic Acids Res.
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Transformation vector pPRV112A,
U12814
                                                                                                                                   Hajdukiewicz, P
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HSDIDLLVTVTVTLDETTRRALINDLETSASSGESEILRAVETIVHDDIIPMYPP
AKRELOFGEWORNDILAGIEBPATIDIDLAILTKAREHSVALVGPAAEELFDPVEG
DLFEALNETLTLMNSPPDWAGDERNVVLTLSRIWYSAVTGKIAPKDVAADWAMERLPA
/organism="Cloning
/mol_type="genomic
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/note="plastid psbA"
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/protein_id="AAC77370.1"
/db_xref="GI:3859841"
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                                                                         Peter T. Hajdukiewicz,
Hoes Lane, Piscataway,
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                                                                                                                                                                                                                                                                                                                                                                                                                                     61
Direct Submission
Submitted (01-AUG-1994)
Rutgers University, Old
                                                                                                                 Cloning vector pPRV112B
Cloning vector pPRV112B
other sequences; artificial sequences; vectors.
1 (bases 1 to 4126)
Zoubenko,O.V., Allison,L.A., Svab,Z. and Maliga
Efficient targeting of foreign genes into the t
                                              2 (bases 1 to 4126)
Hajdukiewicz, P.T.
                                                                                          Nucleic Acids Res. 22 (19),
                                                                                                           genome
                                                                                                                                                                                                                           U12815.1 GI:559554
                                                                                                                                                                                                                                         Transformation vector U12815
                                                                                                                                                                                                                                                                       XXU12815
                                                                              7937099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGGATGGCTATA-TTCTGGGAGCGAACTCCGGGCGAATACGAAGCGCTTGGATACAGT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="multiple cloning site: EcoRI,
XbaI, SalI, PstI, HindIII"
2951. .4126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QYQPVILEARQAYLGQEEDRLASRADQLEEFVHYVKGEITKVVGK"
2894. .2950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation="MABAVIAEVSTQLSEVVGVIERHLEPTLLAVHLYGSAVDGGLKP
HSDIDLLVTVTVTLESTTRRALINDLLETSASFGESEILRAVEVTIVVHDDIIPMRYP
AKRELOFGEWORNDILAGIERBATIDIDLAILTKAREHSVALVGPAAREELFDPVLES
DLFEALNETLTLMNSPPDWAGDERNVVLTLSRIWYSAVTGKIAPKDVAADWAMERLPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement (1962. .2753)
/gene="aadA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="similar to part of tobacco chloroplast region, GenBank Accession Number Z00044"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
/transI_table=11
/product="streptomycin/spectinomycin adenyltransferase"
/protein id="AAA67251.1"
/db_xref="GI:559553"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement (1962.
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complement(1535. .1636)
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/product="16S ribosomal RNA"
1527</pre>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="similar to part of tobacco chloroplast repeat region, GenBank Accession Number Z00044"
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/plasmid="pPRV112A"
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pPRV112B,
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Pred. No. 6.4e-30;
   Peter T. Hajdukiewicz,
Hoes Lane, Piscataway,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                            3819-3824 (1994)
                                                                                                                                                                                                                                                    plastid targeting
                                                                                                                                                                                                                                                                     DNA
                                                                                                                       into the tobacco
                                                                                                                                     and Maliga, P.
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   Waksman II
NJ 08855,
                                                                                                                                                                                                                                                      segment.
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KEYWORDS
SOURCE
ORGANISM
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ACCESSION
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AY005806/c
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                JOURNAL
PUBMED
                                                           AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
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δ 망 Ś 밁 S

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Local Similarity
11126781
2 (base
                                    other sequences; artificial sequences.

1 (bases 1 to 4304)
Suzuki,J.Y. and Maliga,P.
Engineering of the rpl23 gene cluster to replace the plastid RNA
polymerase alpha subunit with the Escherichia coli homologue
Curr. Genet. 38 (4), 218-225 (2000)
                                                                                                                                                                                                                                                                                  4304 bp DNA linear SYN Transformation vector pJYS54, plastid targeting region. AY005806
                                                                                                                                                                                  synthetic construct synthetic construct
                                                                                                                                                                                                                                                         AY005806.1 GI:10442803
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(bases 1 to 4304)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2951. .4126
/note="similar to part of tobacco chloroplast repeat
region, GenBank Accession Number Z00044"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QYQPVILEARQAYLGQBEDRLASRADQLEEFVHYVKGBITKVVGK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTANS lation="MAEAVIAEVSTQLSEVVGVIERHLEPTLLAVHLYGSAVDGGLKPHSDIDLKTVTVTVTKLBETTRALINDLLETSASFGESEILRAVEVIVWHDDIIPMRYPAKRELOFGEWGRNDILAGIFSPATIDIDLAILTKAREHSVALVGPAARELFDPVLEGDAKRELOFGEWGRUDIAGIFSPATIDIDLAILTKAREHSVALVGPAARELFDPADDLAKELOFALNETLITLWNSPPDWAGDERNVVLTLSRIWYSAVTGKIAPKDVAADWAMERLPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon start=1
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/transI_table=11
/protein_id="AAA67252.1"
/protein_id="AAA67252.1"
/db_xref="GI:559555"
/db_xref="GI:559555"
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/gene="trnV"
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region, GenBank Accession Number Z00044"
complement(<1. .1324)</pre>
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/mol_type="genomic DNA"
/db_xref="taxon:37160"
/plasmid="pPRV112B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="multiple cloning site: HindIII, PstI,
SmaI, KpnI, SacI, EcoRI"
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1527
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Pred. No. 6.4e-30;
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                                                                                                                                                                                                                                                                                                                              SYN 28-JAN-2002
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FEATURES
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TITLE
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Submitted (26-JUL-2000) Waksman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Frelinghuysen Road, Piscataway,
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/codon_start=1
/transf table=11
/product="aminoglycoside 3'-adenyltransferase"
/product="aminoglycoside 3'-adenyltransferase"
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/db_xref="GI:10442808"
/translation="MSPOTEGEAVIAEVSTQLSEVVGVIERHLEPTLLAVHLYGSAVD
/translation="MSPOTEGEATINDLLETSASPGESEILRAVEVTIVVHDDII
PWRYPAKRELOFGEWQRNDILAGIFEPATIDIDLAILLTKAREHSVALVGPAADELFD
PVPEQDLFEALNETLTLWNSPPDWAGDERNVVLTLSRIWYSAVTGKIAPKDVAADWAM
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2487. .2604
                                                                                                                                                                                                                                                                                                                    /note="confers streptomycin
to plants"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement (1556.
/gene="aadA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /transl_table=11
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/protein_id="AAG15577.1"
/protein_id="AAG15577.1"
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/gene="psbA"
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                                                                                                                                                                                                                                                                                                                                                                                                                          complement (1663.
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1427. .1648
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organelle="plastid"
organelle="genomic DNA"
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/mol_type="genomic_DNA"
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                                                                                                                                                                                                                                                                                                                                                                                         'gene="aadA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                           product="aminoglycoside
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|mol_type="genomic DNA"
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organelle="plastid"
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07YS54 in the Nicotiana tabacum plastid"
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|mol_type="genomic DNA"
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|xref="taxon:4097"
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Sequence 15
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synthetic construct
other sequences; artificial sequences
1
                                               synthetic construct
                                                                                                                                                                                                                  TGTAGGGAGGGATT
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DVRGRVVSWSSAGTSGFKGTRRGTPFAAQTAAANAIRTVVDQGMQRAEVMIKGPGLGR
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iglawrallogiegrcitryksekyptegritgioesyheinmikeiilrshlyk
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tphnfodgsyeidavpwpyrnanhsilsygnonekoetifleiwtmyslipkealhea
srnlidlfipflhmeednlylodnohtvplspftfhklakliknkkkialksifido
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="targeting sequence" complement(2637..3650) /gene="rpoA"
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2487. .2604
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/trans[ table=1]
/product="ribosomal protein
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/db_xref="GI:10442807"
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/db xref="GI:10442806"
/translation """
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="RNA polymerase alpha subunit"
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Pred. No. 6.4e-30;
                                                                                                                WO2004029256
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Vector for the production of transplastomic angiosperm Patent: WO 2004029256-A 25 08-APR-2004;
CENTRO DE INGENIERIA GENETICA Y BIOTECNOLOGIA (CU)
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Vector for the production of transplastomic angiosperm plants Patent: WO 2004029256-A 15 08-APR-2004;
CENTRO DE INGENIERIA GENETICA Y BIOTECNOLOGIA (CU)
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synthetic construct
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Sequence 22 from Patent WO2004029256.
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Vector for the production of transplastomic angiosperm plants Patent: WO 2004029256-A 22 08-APR-2004;
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between the rice atpB and tobacco rbcL borders."
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